

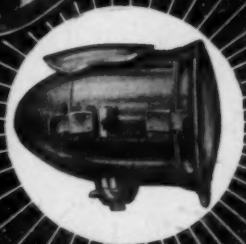
THE AUTOMOBILE

WEEKLY

NEW YORK—SATURDAY, MAY 6, 1905—CHICAGO

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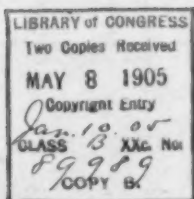
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THE AUTOMOBILE

VOL. XII.

NEW YORK—SATURDAY, MAY 6, 1905—CHICAGO

NO. 18

NEW YORK AUTO PARADE IN THE RAIN.

ONE hundred and thirty-eight cars took part in last Saturday's automobile parade, conducted by the Automobile Club of America, notwithstanding the morning was made disagreeable by an

slippery asphalt paving of Fifth avenue as the cars hurried from uptown to the assembling places in the side streets off the avenue from Washington square to Thirteenth street; wheels spun around uselessly, like

number of vehicles had their wheels fitted with anti-skid chains, and on others the tires had steel-studded protective treads. Occupants of the few limousine cars and the score or more of machines equipped with



GUEST DIVISION WAITING IN FIFTH AVENUE FOR START OF PARADE—WASHINGTON ARCH AND SQUARE IN BACKGROUND.

overcast sky and a raw wind from the northeast and that rain began falling at noon and continued throughout the time the parade was forming in the early afternoon. There was much skidding of wheels on the

the drivers of a locomotive too heavily loaded on an up grade, and when the brakes were applied on a car that was under way the rear wheels slid for several yards before arresting the motion of the vehicle. A

cape cart hoods were subjects of envy for the greater number of passengers in open touring cars and runabouts until the rain ceased, when the run through the city streets and boulevards was half finished. Had the

day been bright and balmy, there might have been 500 cars in line.

As always in events of this kind, the assembling of the vehicles was of more interest to automobilists than the parade itself, for it gave a chance to note the different styles of cars and inspect the new models of the season, some of which had only just made their appearance in the city.

Of the seven divisions into which the parade was divided, the best filled was the section for American gasoline touring cars, with thirty-eight machines, led by Marshal Robert Lee Morrell, racing chairman of the American Automobile Association. The largest number of cars of one make in this section was twelve Locomobiles, and the second largest was nine Packards.

The steam division, led by Augustus Post, marshal, was the second largest, numbering at the start twenty-seven cars and being augmented further uptown by a squad of half a dozen more. This division was undeniably the feature of the parade, made so by the fact that all of the cars in it were White touring cars, and with only three or four exceptions they were all of the 1905 model. It is noticeable at all public events, such as endurance runs and parades, the White people are able to get a good turnout of their cars and that there is a certain *esprit de corps* among the owners and drivers that does not exist among the owners and drivers of any other make. They always keep their cars together and well lined up, and regardless of any fast driving by others, they maintain a uniform pace, in keeping with the rules and spirit of the occasion.

Twenty-two American gasoline runabouts took part in the parade, led by C. H. Gillette, while the foreign section was represented by a dozen cars, notable among them being a Coventry Daimler and an Argus touring car, both new to America, the former made in England and the latter a Ger-



NEW YORK PARADE GETTING UNDER WAY IN FIFTH AVENUE LAST SATURDAY. Looking Toward Washington Square from Thirteenth Street. Note Wet Asphalt on which Wheels Slipped and Cars Skidded.

man car. E. T. Birdsall was marshal of this division.

Marshal A. R. Pardington led the Automobile Club division, in which there were a score of cars, mostly belonging to members of the Long Island A. C.

Three women drove cars in the run, two handling White steamers and one, Mrs. C. E. Griffith, a 22-28-horsepower Ford touring car with hood. Miss Tony Paul, of Boston, handled Winthrop E. Scarritt's White, Mr. Scarritt not participating.

The start was made at 2.30 p. m. from the Lafayette-Brevoort House, Fifth avenue and Eighth street. The whole front of the hotel, which was headquarters for the club, was decorated with flags and draped bunting, which, however, hung limp in the rain. Upon signal from the bugler of the guests'

division, M. M. Belding, Jr., grand marshal, set the pace, up Fifth avenue, leading his division of seventeen cars. In the guests' cars were State Senators Saxe and Cooper, Assemblymen Bird, Cotton, Smith, Hooker, Slocum and Wilson, City Magistrates McKean, Olmstead and Ommen, Commissioners Hally and Pallas, Police Inspector Smith and Aldermen Bedell, Higgins, Oatman, Mathews, Boheif and Grifenhagen.

A number of the cars in the various divisions carried policemen belonging to the bicycle squad, who evidently enjoyed the occasion far more than the automobilists themselves, for they jumped off and "flipped" onto the cars at car crossings with much assumed *sang froid*, and never interposed an objection or caution regarding the fast pace set. Doubtless they felt that as



PART OF WHITE STEAM CAR SECTION OF NEW YORK PARADE, LINED UP IN FRONT OF GRANT'S TOMB IN RIVERSIDE DRIVE.

the police inspectors and several magistrates were in the guests' division that set the pace, the matter of illegal speeding was one for consideration "higher up."

Regard for radiators and handsomely finished bodies on new cars soon caused the line of machines to "stagger," and probably it was the desire to get out of the disagreeable weather and wet clothing that caused the marshals to set so fast a pace that the divisions quickly became disorganized. Before the procession reached 110th street all semblance of a "line" had disappeared and cars were running three and sometimes even four abreast. There was a helter-skelter scramble up the 110th street hill onto Cathedral Heights, six miles from the start, at 3.20 o'clock, then a fast run to Riverside Drive and north on it along the Hudson River to and around Grant's Tomb and southward on the Drive to 72d street.

Before passing the guests' cars, which

SPRINGFIELD HILL CLIMB SUCCESSFUL.

American Cars Make Excellent Showing in First Event of Local Club—Fair Weather, Good Road Surface and Large Entry List—Only Stock Cars Competing.

Special Correspondence.

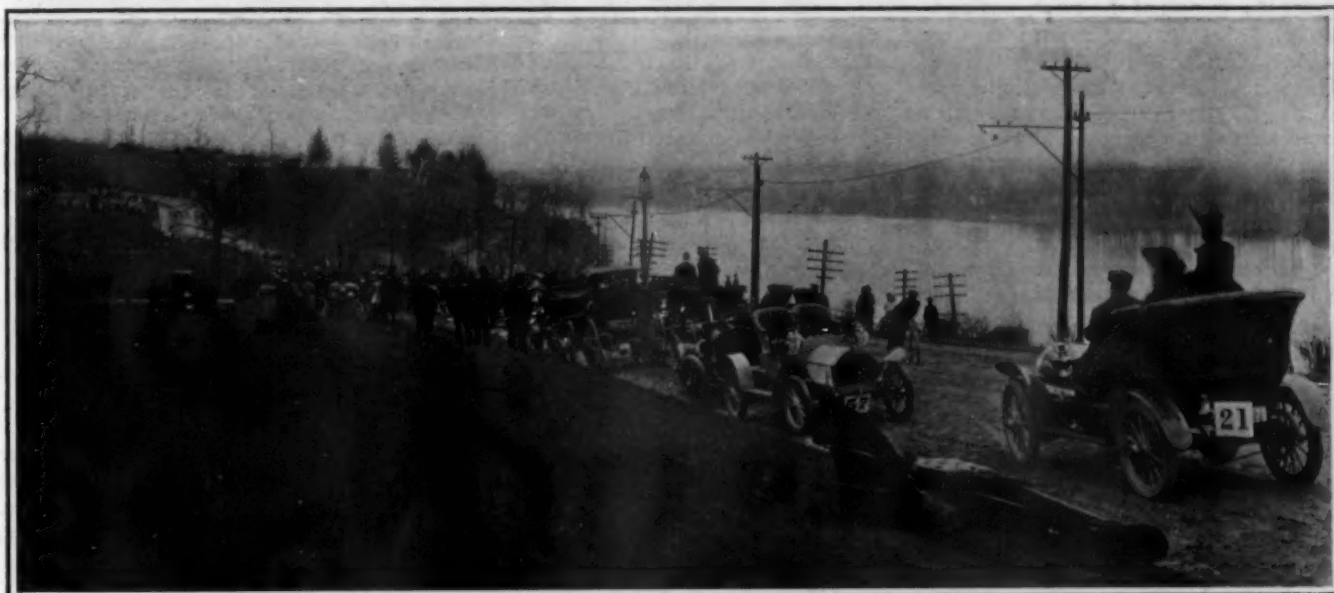
SPRINGFIELD, MASS., May 1.—The Automobile Club of Springfield opened the season of 1905 last Wednesday with a hill-climbing contest, which was the most successful event the organization has ever attempted. The cars competing included a 60-horsepower Napier, owned by William M. Hilliard, of the Napier Motor Car Co., of Boston; a Grout Special steamer of 50 horsepower, driven by George Cannon; three 40-horsepower De Dietrich cars, two entered by C. A. F. Ifizemayer and one by

is by no means an easy one to negotiate. The last 200 yards to the finish line is straight.

Several thousand persons watched the contests from the vantage points afforded by the high ground that overlooks the course, and the largest assemblage of motorists ever gathered in Springfield viewed the contest from their cars drawn up along the way.

The big Grout steamer proved perhaps the favorite of the day, making the fastest time recorded—34 seconds. This it did in the Class A event, in which it was the sole entrant.

Another noteworthy performance was that of the 20-horsepower Stevens-Duryea, winner of Class D, and which in the free-for-all defeated all competing American and foreign cars except the 60-horsepower Napier racer, and landed in second place in 37 3-5 seconds, only two seconds behind



SCENE AT SPRINGFIELD, MASS., HILL CLIMBING CONTEST, FROM TOP OF PECOWSIC HILL, CONNECTICUT RIVER AT RIGHT.

were lined up on 72d street to review the parade, the divisions stopped to re-form, and the steam section lined up across the Drive in the plaza in front of the Tomb for a panoramic photograph. Turning into Broadway from 72d street, the parade continued southward to Columbus Circle, where the divisions quickly disbanded, and by 4.30 p. m. the units of the second annual A. C. A. parade were swallowed up in the busy traffic of the metropolis.

IMPORTS OF AUTOMOBILES.

Imports of automobiles for the month of April, 1905, as shown by the reports of the Appraiser at the Port of New York, aggregate fifty-two machines, with a valuation of \$228,254.13, against thirty-one machines, with a valuation of \$89,000, for the same month in 1904. And during the four months ending with April, 1905, 234 cars were brought in, valued at \$865,000, against 140 cars, at \$470,000, for the same period in 1904.

H. L. Bowles, of this city; two Thomas cars of 40 horsepower, owned by C. S. Henshaw, of Boston, and the E. R. Clark Auto Company, of this city; several Columbias of 35 horsepower, one of which was driven by Eddie Bald, of the Electric Vehicle Company, of Hartford, and about forty other cars, ranging from 9 to 24 horsepower.

The contest was held on Pecowsic hill, about two miles south of the center of the city, on the Longmeadow road, and extended from the hollow near the Pecowsic entrance to Forest Park southward for 2,100 feet to the Longmeadow line. The road is of macadam and had been put in good condition. Although the hill has not heretofore figured in any contest, it proved ideal for the events of to-day. The grade in its heaviest part is about ten per cent, beginning and ending with a lighter gradient. The hollow at the start is in the form of an S curve, while the major portion of the climb is a rather stiff curve, so that the hill

the winner. The car was finished at the factory under pressure in order to compete in this contest, and entered minus the usual finished appearance. After the race a protest was made that the car was not a stock machine, but this was found to be untrue, and the place was allowed.

The cars of local manufacture made creditable performances, the Knox two-cylinder car making the best time of any two-cylinder car competing, and its record of 42.4-5 seconds being better than that of several higher powered machines.

City Solicitor E. W. Beattie, Jr., and City Marshal George M. Stebbins acted as judges, and C. H. Gillette, the retiring secretary of the A.A.A., acted as referee. The cars were all sent off with flying starts, and the timing was directed by Herman Farr, general superintendent of the Knox Automobile Company, which was done by means of an electrical mechanism devised by him.

Trolley service to the course was excel-

lent, and the space available for use of spectators would have accommodated many times the number who watched the contest to-day.

Considering the lack of experience in the conduct of such events on the part of the club officials, the various details of the contest were carried out with a smoothness that reflects credit on the committee. The spectators that lined the course were sportsmanlike and considerate, and did not crowd the course. Officials with red flags and megaphones, stationed at different points along the course, announced the approach of the racers, and a squad of ten patrolmen policed the route, but had little to do save care for the horse-drawn vehicles that made use of the highway.

Prizes were awarded for the best three times in each class, and included a number of cups donated by Springfield merchants. The awards were made at the banquet. The contest committee, to which much credit is due for the success of the event, was composed of B. J. Griffin, chairman; F. S. Carr and A. E. Corbin.

No more picturesque spot for the contest could have been chosen; the high ground skirting the highway, which at this point runs close to the Connecticut river, overlooks a long stretch of the broad river to the north; Springfield lies in the middle distance, and ten miles away Mount Tom lifts its head, crowned by the Summit House and flanked by the hills of the Mount Holyoke range. Just beyond the finish line lies the pretty village of Longmeadow, with its well-kept lawns, arching trees and country villas.

The day closed with a complimentary banquet by the club at the Hotel Worthy, the headquarters of the club, and more than 100 automobilists were in attendance. A. E. Corbin, of the contest committee, acted as toastmaster, and President L. J. Powers welcomed the guests. A number of interesting addresses were made.

The following is the summary:

Class A, for steam cars—Won by Grout special; time, 34 seconds.

Class B, gasoline cars selling for less than \$1,000—Won by H. G. French, Ford, time



OFFICIALS AND GUESTS REVIEWING NEW YORK PARADE IN SEVENTY-SECOND STREET.

57 3-5; E. R. Clark Auto Co., Autocar, second, time 1:04 2-5; A. A. Geisel, Cadillac, third, time 1:12 2-5.

Class C, gasoline cars, from \$1,000 to \$1,500—Won by Linscott Motor Co. Reo, time 54 4-5; Knox Automobile Co., Knox, second, time 1:03; Norcross-Cameron Co., Rambler, third, time 1:05; F. S. Hutton, Rambler, time 1:10 2-5; W. E. Eldridge, Buick, 1:11; Norcross-Cameron Co., Rambler, 1:13 1-5.

Class D, gasoline cars, from \$1,500 to \$2,500—Won by S. L. Haynes, Stevens-Duryea, time 47 2-5; Harry Fosdick, Winton, second, time 51 2-5; F. H. Fowler, National, third, time 52 2-5; Electric Vehicle Co., Columbia, time 56 1-5; Harry Fosdick, Winton, time 59 3-5; Harry Fosdick, Winton, time 1:00 2-5; J. W. Norcross, Ford, time 1:08 2-5.

Class E, gasoline cars selling for more than \$2,500—Won by Electric Vehicle Co., Columbia, time 41 1-5; C. S. Henshaw, Thomas, second, time 44 4-5; C. A. F. Ifizemayer, De Dietrich, third, time 50 1-5; E. H. Clark Auto Co., Thomas, time 53 1-5; H. L. Bowles, De Dietrich, time 1:05 2-5.

Class F, free-for-all—Won by Napier Mo-

tor Car Co., Napier, time 35 3-5; Stevens-Duryea, second, time 37 3-5; Grout special, third, time 37 4-5; Knox time 42 4-5; Winton, time 49 4-5; Buick, time 50 1-5.

Class G, same as Class E, but with tonneaus loaded—Won by Electric Vehicle Co., Columbia, time 43 4-5; C. S. Henshaw, Thomas, second, time 44 1-5; Reed-Underhill Co., Stearns, third, time 47 1-5; C. A. F. Ifizemayer, De Dietrich, time 50 2-5; Harry Fosdick, Winton, time 52 3-5; H. L. Bowles, De Dietrich, time 58 4-5; E. R. Clark Auto Co., Thomas, time 1:01 4-5; F. H. Fowler, National, time 1:02; Harry Fosdick, Winton, time 1:21 4-5; Knox Automobile Co. Knox, time 1:27 1-5.

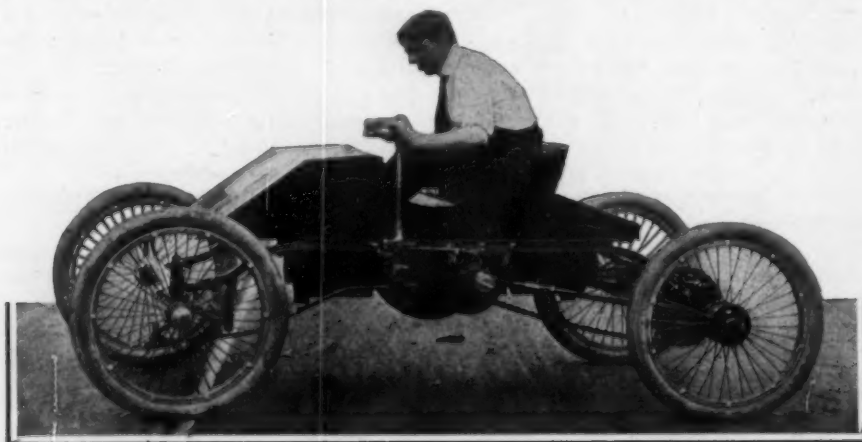
Class H, motorcycles—Won by Oscar Hedstrom, Indian, time 36 1-5; Charles Spencer, second, time 37; G. H. Holden, Indian, third time 42; Charles Gustafson, Indian, time 44 2-5.

GERMAN ENTRY FOR VANDERBILT RACE.

The 120-horsepower Mercedes racer, owned by Robert Graves of New York, was yesterday nominated by the Automobile Club of Germany as one of the representatives of that country in the Vanderbilt Cup Race, and Mr. Graves immediately made formal entry of the car with Robert Lee Morrell, chairman of the Cup Commission. Mr. Graves is one of the early members of the Automobile Club of America, and has recently been elected to membership in the German club.

CHICAGO RUNS AT HARLEM TRACK.

CHICAGO, May 3.—It has been decided that the races to be held on May 27, 29 and 30 by the Chicago Automobile Club will take place on the Harlem track instead of at Washington Park. This action was taken by the Racing Board and the Board of Directors at a meeting last Monday after carefully considering the advantages offered by the two tracks.



H. RAYMOND IN KNOX CAR USED IN SPRINGFIELD HILL CLIMB.

New Road and Track Racing Rules of the American Automobile Association.

FOLLOWING are the racing rules for track and road, incorporating amendments and revisions adopted at the April 6 meeting of the board of directors of the American Automobile Association, and published in the A. A. A. bulletin No. 2, of May 1. It will be noted that the track rules and the regulations for competition on the road, which were formerly separate, have been combined into a single set of rules. The amateur definition, which has caused so much discussion, is also incorporated. The first contests to be held under these new rules will be held at the Brighton Beach track, New York, on Saturday, May 6.

RACING RULES.

Sanctions.

1. **SANCTIONS.** A person, association or club (hereinafter designated the Promoter) desiring to hold a race or series of races under the rules of the American Automobile Association shall first obtain a sanction from the Chairman of the Racing Board. No announcement of such race or races shall be made until such sanction shall have been obtained.

2. **APPLICATIONS.** Application for such sanction shall be made to the Chairman of the Racing Board and shall be accompanied by a fee of fifty dollars for non-members of the American Automobile Association, or ten dollars for members, and shall set forth the name and address of the Promoter; a schedule of the events and distances; the number and value of the prizes; the amount of the entry fees and details of the course. If the event is to be run on a public highway the Board may require evidence of the permission of the proper legal authorities.

3. **REFUSAL.** The Racing Board reserves the right to refuse a sanction without assigning a reason therefor.

4. **EVIDENCE OF PRECAUTION.** Promoters, before sanctions will be granted, must, if requested by the Racing Board, demonstrate to the Board that every reasonable precaution to save harmless (in so far as possible) the general public and contestants has been taken. This includes laying dust, patrolling the course, closing highways, etc.

5. **NO CHANGES.** After a sanction has been granted no change may be made in any of the details required to be set forth in the application for same, except with the approval of the Racing Board. No change in the itinerary of a road race may be made without the approval of the Racing Board. In the event of such approved change, the promoter must give the widest possible publicity to the change, and shall be charged with the duty of advising all those interested of such change.

6. **TRANSGRESSION.** No sanction shall be granted to a promoter who shall have previously transgressed the racing rules of the American Automobile Association, or permitted their transgression at a meeting under his management, until he shall have been restored to good standing by formal action of the Racing Board.

Duties of Promoter.

7. **ENTRY BLANK.** On receipt of a sanction the promoter shall prepare an entry blank, which shall show the details set

forth in Rule 2; the date of the closing of entries; the address to which entries must be sent; and which shall require the entrant to supply the name of the operator; the machine he will drive; the name of the maker; the motive power; the weight; the number of cylinders; the rated horse-power; and the date of mailing the entry. It shall bear upon its face the words, "Under the rules, and with the sanction of the Racing Board of the American Automobile Association."

8. **SEND COPIES.** A copy of the entry blank shall, immediately upon its issue, be forwarded to the Chairman of the Racing Board. A copy of these rules shall be sent by the Promoter to every entrant.

9. **SEND RULES.** Each driver shall be provided with a copy of these rules before competing in any event which may be promoted thereunder.

10. **SEND RECORDS.** The promoter shall forward to the Secretary of the Racing Board within forty-eight hours after the meet a complete record of the meet, showing the winners of each event and the times made, which record shall be signed by the referee and timers.

11. **PROGRAMME CONTAIN.** The programme shall bear upon its face the words: "Under the rules and with the sanction of the Racing Board of the American Automobile Association," and shall set forth the distance of each race; description of prizes and their value; a copy of the rule relative to the classification of automobiles for racing; the manner of starting; a list of the names of the officials, strictly in accordance with the rules relating to same; and a list of the entrants and their numbers.

Entries.

12. **ENTRIES.** The acceptance of the entries shall be limited to persons who have not, since the first day of January, 1903, taken part in any automobile race or hill climbing test not sanctioned by the Racing Board of the American Automobile Association, and who have never knowingly competed with a person not eligible under the rules and rulings of the Racing Board; who agree, by their signatures to the prescribed entry blank, to recognize the jurisdiction and decisions of the Racing Board of the American Automobile Association in racing matter, and who have not been debarred from competition in events over which the American Automobile Association or the governing bodies of other nations have jurisdiction.

The act of competing in an unsanctioned meeting, or in an unsanctioned event, shall disqualify without action of the Racing Board, and such disqualification shall remain in effect until removed by formal action of the Racing Board.

13. **CAR AND OPERATOR.** An entry shall consist of a combination of operator and car, the latter being described, at the time of the entry. No change of car shall be permitted after an entry has been filed, nor of operator without the consent of the Referee.

14. **RECEIPT AND ACCEPTANCE OF ENTRIES.** No entry shall be accepted after midnight of the day set for the closing of entries, no entry shall be accepted unless accompanied by the entry fee and all the details required to be set forth in the entry blank. Acceptance of an entry under other conditions shall be a sufficient reason for the refusal of a subsequent sanction to the offending Promoter.

15. **FALSE ENTRY.** Should a false declaration be made intentionally by an entrant, the Racing Board may, in its discretion, disqualify the entry and penalize the entrant.

16. **MORE THAN ONE CAR.** Entrants, when declaring more than one car for an event, shall specify in detail each car declared at the time of entry.

17. **ASSUMED NAME.** Any person who desires to race under an assumed name must first register such name with the Racing Board, and shall continue to race under the name so registered until withdrawn by permission of the Racing Board.

18. **AMATEUR.** An amateur driver is one who does not race for hire, or who is not actively engaged in the automobile trade, or who does not make his livelihood or any part of it as a result of his racing, or who has never been declared a professional by any sport governing body.

Classification.

19. **AUTOMOBILE, MOTOR CAR, CAR.** An automobile, motor car or car within the meaning of these rules, is a four-wheeled track or road vehicle propelled by self-contained mechanical means, and provided with suitable brakes, a differential gear or its equivalent, and a reverse gear. (Note:—The requirement of brake and gears will not become operative until June 1st, 1905.)

20. **STANDARD CLASSIFICATION.** The standard classification of motor cars shall be by weight as follows:

- (A) Cars from 1,432 to 2,204 pounds.
- (B) Cars from 851 to 1,432 pounds.
- (C) Cars from 551 to 851 pounds.
- (D) Cars from 110 to 551 pounds.

21. **OTHER CLASSIFICATIONS.** In races where classifications other than those provided in Rule No. 20, are scheduled, such details and the details of classification must be submitted to the Racing Board for approval before the announcement of the event.

22. **TWO PERSONS TO BE CARRIED.** In Classes "A" and "B" cars must carry at least two persons seated side by side, whose per capita weight shall be not less than 132 pounds (60 kilos).

By way of exception, in races on tracks and for record making, vehicles seated for two persons will be allowed to be occupied by one person only, but the necessity for two persons is indispensable in races on roads.

23. **WEIGH IN EMPTY.** The weight of the cars in the several classes shall be computed in an empty state, i. e., without operators, supplies, (fuels, lubricants, water or batteries), tools, spare parts, luggage, clothing, provisions, lamps, lamp brackets and horns.

24. **MAGNETOS.** Cars supplied with magneto generators actuated by the motor, shall be allowed a maximum of 15 pounds (7 kilos).

25. **MOTOR EXHAUSTS.** Motor exhausts shall not be directed toward the ground by reason of the dust created and the consequent danger to the following competitors. The direction of the exhaust will be checked and regulated before starting.

26. **DISTINGUISHING MARKS.** Cars shall not be allowed to carry any distinguishing marks other than the official designations provided by the promoters, which shall consist of a numeral placed on each the right and left side of each car, and where possible, on the front of the bonnet or hood.

Officials.

27. **REFEREE.** The principal officer of a race meet shall be a Referee, whose duty it shall be to exercise general supervision

over the affairs of the meeting and to act as the representative of the Racing Board. He shall, if necessary, assign the judges, timers, umpires, clerk of the course, and starter to their respective positions and instruct them as to the rules. He shall receive all protests and render decisions thereon, subject to appeal to the Racing Board as provided for hereafter in these rules. It shall be his duty to enforce the rules and make a full report to the Chairman of the Racing Board of transgressions thereof either by promoters, contestants or officials.

28. **JUDGES.** There shall be three Judges whose position shall be on, or at the edge of the course, two at one end and one at the opposite end of the tape. The numbers of the placed cars shall be taken, one each by the three Judges respectively. The decision of the Judges as to the order of finishing shall be final. The judging of the cars shall be determined by the instant of contact of the tires of the front wheels with the tape.

29. **TIMERS.** There shall be three Timekeepers whose sole duty it shall be to accurately calculate, report and record the elapsed time of placed contestants. The Board may require evidence of the competency of timers.

30. **STARTER.** It shall be the duty of the Starter, after he has been advised by the Clerk of the Course that the contestants are ready, to ascertain that the Timers are ready and then give the signal to start by firing a pistol. He shall have absolute control of the competitors from the time they are reported by the Clerk of the Course until the start has taken place. In the event of a moving start, the Starter alone shall have power to decide what is a fair start and may use a flag instead of a pistol as a signal.

31. **CLERK OF THE COURSE.** There shall be a Clerk of the Course, with as many assistants as may be necessary. It shall be his duty to notify competitors, in due time, of the events in which they are entered; see to the arrival of the competitors at the starting point on time and to place them in their respective positions.

32. **UMPIRES.** There shall be two or more Umpires, whose duty it shall be to take positions assigned them by the Referee, to note carefully the progress of the race and be prepared to report upon claims of unfair driving by contestants.

33. **SCORER.** There shall be an official scorer, whose duty it shall be to keep a proper record of the time of each event, which shall be signed by each of the timekeepers.

Starting.

34. **FAILURE TO START.** Any entrant to a race who fails to appear or who fails to start in the race unless excused therefrom by the Referee for a good and sufficient reason, shall be reported to the Racing Board by the Referee, and by the Board subjected to discipline by suspension, disqualification or other penalty in such degree as in its judgment seems best to the Board.

35. **METHOD OF STARTING.** Starts may be standing, moving or flying. Due notice of the method must be given on the program, but in the event of failure to state the method a standing start shall prevail.

36. **STANDING START.** In a standing start the car must be stationary with its front wheels on the tape until given the word or signal to go. Time will be taken from the word or the drop of a flag or the firing of a pistol.

37. **MOVING START.** In a moving start cars must start at a point between two hun-

dred and three hundred yards back of the tape. The pace from this point to the tape must be taken from the pole or inside car.

38. **FLYING START.** In a flying start a car may start at any distance back of the tape and cross the tape at the highest possible speed. This method of starting may be employed only where a single car is running for a record or in a time trial.

39. **POSITION.** In all races the position of the contestants at the start shall be decided by lot.

40. **DELAY.** A contestant who fails to respond promptly to the call of the Clerk of the Course shall forfeit his right to his position and shall take the outside. There shall be no delay at the start on account of absentees and no contestant shall be permitted to take a place in the line after the contestants have been reported to the Starter by the Clerk of the Course.

41. **STARTING CARS.** Starting of cars must be effected only by means of the motor, and without other means, as pushing by hand, lever, etc. This rule applies not only to the start at the beginning of the event, but to re-starting after any stoppage for any cause whatever, except as provided in Rule 54.

42. **REFEREE'S DECISION.** In the event of a protest relative to classification of a car, or other matter which shall affect the right of a car to start, the Referee may, unless able to render an immediate decision, allow the car to start and render his decision as soon after the event as may be possible.

43. **DEMONSTRATIVE ABILITY.** The Referee and the Judges may, in their discretion, require the operator of any car to demonstrate his ability to properly handle the car in which he proposes to compete.

44. **PROHIBIT.** The Referee shall have absolute power to prohibit any car which he considers unsafe, unsuitable, or of improper construction to start in any event.

Heats.

45. **HEATS.** The Referee shall, in case there are a larger number of entrants than can safely be started in one race divide the contestants by lot into two or more heats, each as nearly equal in number as possible, and a final. In case a competitor is not able to start in the heat for which he was drawn, the Referee may transfer him to another heat at his discretion. The positions of the contestants in heats shall be according to the number drawn, the lowest number taking the inside with at least four feet intervening between the hubs.

46. **FINAL HEATS.** The winners of each heat and any second car that makes faster time than any heat winner, shall compete in the final.

47. **DEAD HEAT.** In case of a dead heat the event shall be run again, unless the contestants agree, between themselves, as to the disposition of the prizes.

In the event of a dead heat being run off, the same car and the same operator shall be obliged to compete in the final heat.

48. **WALKOVER.** In the event of a "walkover" it shall be optional with the Referee whether the contestant be required to go the whole or a part of the distance. The Referee may impose a reasonable time limit.

Timing.

49. **TIMING START AND FINISH.** The time of the start and finish shall be determined by the instant of contact of the tires of the front wheels with a tape, laid across the course.

50. **HANDICAP.** In a time handicap the time shall be taken from the start of the scratch contestant.

51. **DISAGREEMENT OF WATCHES.** In the

event of disagreement of the watches, two agreeing, their time shall be official. Should all the watches disagree, the middle time shall be official.

Rules of the Course.

52. **COURSE AND STAND.** No persons other than the officials, contestants and one assistant for each contestant, shall be allowed upon the course. Contestants and attendants must leave the course as soon as the event in which they are engaged has ended.

53. **LEAVING COURSE.** A Competitor who leaves the course for any cause, must, if he desires to continue the race, start from the point at which he withdrew. A competitor who leaves the track or road, or is unable to continue, in a race run in heats, shall not be allowed to compete in a subsequent heat of the same race.

54. **CARS NOT TO BE PUSHED.** Cars must not be pushed, except by their own crews. This rule may be departed from under only the two following conditions:

(a) On leaving the enclosure, when approaching the starting line, and

(b) When necessary to get out of a bad place, not properly a part of the course, such as fording a stream, ditches, etc.

55. **FOUL DRIVING.** Intentional foul driving shall be punished by disqualification for all subsequent events at the meeting, as well as the event in which the foul practice occurs, and may be further penalized by the Racing Board by suspension not exceeding six months for the first offense and permanent suspension for a second offense.

56. Special Track Rules.

(a) **PASSING.** It shall be the duty of the operator of the leading car to hold the inside as nearly as may be practicable. One contestant overtaking and passing another, must pass on the outside unless the car in front shall be so far from the inside as to render it safe to pass on the inside. After having passed to the front a competitor shall not take the inside, or cross in front of the competitor passed, unless a lead of a full length of his car has been established, under penalty of disqualification.

(b) **RAIL.** All track races shall be run with the left hand of the operator toward the rail.

(c) **PASSENGERS AS ASSISTANTS.** A competitor may, if he elects, carry one assistant as a passenger. After having been passed by the Clerk of the Course no car shall receive attention at the hands of any person other than the competitor and his assistant.

57. Special Road Rules.

(a) **RULES OF THE ROAD.** Operators must comply with the regulations for road traffic, which include:

- (1) Keep to the right when overtaken.
- (2) Keep to the left when overtaking.
- (3) Pass to the right when meeting a vehicle moving in the opposite direction.

(b) **GIVE WARNING.** Cars shall give warning of approach as often as may be necessary, by means of a horn, or trumpet, or other instrument of like character. Bells or gongs may not be substituted.

(c) **OFFICIALS.** The usual officials provided for in track racing events, viz., referee, judges, timers, clerk of the course, starter, umpires and scorer, shall obtain in road races, with the exception that the number of timers may be increased with the demands of the event. All officials must be approved by the Racing Board before serving in their various capacities.

(d) **UMPIRES' DUTIES.** Umpires shall be placed at each turn in the course or circuit. It shall be their duty to report to the Referee on all matters which seem to demand the

same. It shall be their further duty to know by observation as to whether or not an operator is hindering or otherwise wilfully obstructing another car, or obstructing the course, contrary to these Rules.

(e) **CHECKERS' DUTIES.** Checkers. In addition to the officials already provided for there shall be appointed a requisite number of officials who shall be known as checkers. They shall be located at points designated by the promoter. In addition to checking cars in their order of passing, it shall be their duty to enforce compliance with these Rules.

(f) **TIME CHECK BOX ON CAR.** To facilitate checking, every car competing shall be equipped with a box of uniform pattern to receive the control vouchers provided. These boxes shall be supplied to each competitor by the promoter, he taking therefor a deposit of \$5, which sum shall be returned to the competitor upon the return of the box to the promoter. These boxes shall be made securely fast to some part of the car, conveniently available to the timers and checkers.

(g) **TIMES AT CONTROLS.** In passing through controls the time of arrival shall be taken on the instant the front tire shall have stopped at a point of contact with the tape, and the time shall again be taken on the instant of starting from the tape at the exit of such controls.

(h) **TIMERS AT CONTROLS.** The timer at the entrance of the control shall make a note of the instant the tires come to a rest at the tape, making note of the same on the card, deliver this card to the person conducting the contestant through the control, who shall, upon his arrival at the exit, deliver the same to the second timer, who shall thereon make note of the time of departure. This card must be deposited in the competitor's time check receptacle after the official record shall have been completed.

(i) **TIMER'S CARD.** The timer or checker at the exit of control shall deposit the voucher in the box in advance of the time of start, noting thereon the instant of start.

(j) **PILOTS THROUGH CONTROLS.** Contestants shall be preceded through controls either by a person mounted on a bicycle, or shall be accompanied by a person competent to estimate the speed of the car, in order that, as nearly as possible, the full limit of time set for passing through the control shall have been consumed.

(k) **FOLLOW PILOTS.** Competitors must conform fully with the regulations established by the pilots mounted on bicycle, or be regulated by the instructions of the official who shall accompany him through controls. Competitors are warned that any deviation from this rule will result in penalizing them in the full time required for the control.

(l) **FAILURE TO PASS CONTROL.** Any competitor who shall fail to pass through a control, either by neglect, or wilfully, shall be disqualified from further competition in the event.

(m) **TWO CARS FROM CONTROL.** If two vehicles shall come to the entrance of the control simultaneously, the checker or timer shall send them away together, from the limit of the control.

(n) **REPAIRS AND SUPPLIES IN CONTROLS.** While a car is passing through a control no repairs shall be made and no supplies shall be taken on.

(o) **REPORTS OF OFFICIALS TO REFEREE.** Immediately upon the close of the event checkers and timers at all control stations, umpires and checkers along the route of the race shall at once prepare reports of all

that transpired, and immediately transmit the same to the Referee.

Records.

58. **RECORDS.** No time shall be accepted as an official record unless taken by at least three official Timers.

59. **SURVEYOR'S CERTIFICATE.** Claims for records must be accompanied by a surveyor's certificate as to the correctness of the distance run measured, if on the track, three feet from the pole, and if on the road, at its center, together with evidence that the course is level.

60. **INTERMEDIATE DISTANCES.** In event of an attempt to lower the record for a given distance the acceptance of records at intermediate distances will not be allowed.

61. **UNOFFICIAL TIMES.** Times made in events where classification other than that provided in Rule No. 20 shall obtain, shall not be recognized as official, although awards may be made on their results.

Protests, Complaints and Appeals.

62. **PROTESTS AND COMPLAINTS.** Protests or complaints of any kind must be made to the Referee within twenty-four hours after finish of the race involved. The protestant or complainant must accompany his complaint or protest with a fee of \$10, which shall be forfeited to the promoter if the protest be not sustained. A protest, once lodged, may be withdrawn only by consent of the Racing Board.

63. **CONTESTANTS' AND OWNERS' PROTESTS.** Contestants shall be allowed to complain in regard to foul driving, interference, or any other irregularity which shall have interfered with his rights under these Rules during progress of the event.

Complaints or protests on other matters, as to classification, eligibility to start, etc., may be made only by the owner or owners of competing car.

64. **APPEAL TO RACING BOARD.** An appeal from the decision of the Referee may be made to the Racing Board by the owner of the car against which the decision was made. Such an appeal must be forwarded to the Board within ten days after the rendering of the decision, and must set forth fully the facts of the case, accompanied by sworn statements or affidavits necessary to substantiate the claim, and a copy thereof sent at the same time to the Referee, from whose decision the appeal is taken. A fee of \$50.00 must be sent with the appeal, which fee will be returned if the decision appealed from be reversed. No member of the Racing Board may sit on the Board when it is considering an appeal from a decision which he has rendered, or in which he is personally interested.

Responsibility.

65. **SUITS FOR DAMAGES, ETC.** All suits of a civil or penal character, of any kind whatsoever, arising from competition in races held under these Rules must be borne and resulting judgments satisfied by the competitor responsible for the action.

Betting.

66. **NO BETTING PERMITTED.** The making or laying of bets or wagers shall not be permitted, recognized or tolerated.

Disqualification.

67. **DISQUALIFY.** Disqualification for any infraction of the foregoing rules shall debar the offender from participation in any and all of the awards for the event in which he competed.

Powers of Racing Board.

68. **POWERS OF RACING BOARD.** The Racing Board reserves the right to veto the ap-

pointment of any race official; to assign dates; to inquire into and deal in its judgment with all matters relating to racing, subject to the rules; to disqualify, either temporarily or permanently, persons guilty of infraction of these Rules; to determine who are and who are not eligible to compete; to interpret these rules and to decide any issue not covered herein as it may consider advisable.

69. **AMENDMENTS.** These Rules may be amended by the Board of Directors of the American Automobile Association.

HORSES TRAINED TO AUTOS.

At first thought it would seem strange that the growing use of automobiles should enhance the value of a horse, yet the "For Sale" advertisement reproduced herewith from a St. Augustine paper shows how this may be so. Obviously, in a place where modern means of transportation are coming into use, a horse that will take it into his foolish head to do a frenzied dance upon the approach of a steam or electric car or automobile and perhaps bolt in fright as it passes is a less desirable bit of property than an animal that has become accustomed to look upon these things with composure.

With proper handling, horses will become accustomed to automobiles quite as readily

For Sale.

MY driving horse, young, sound and kind; good size. Not afraid of cars or automobiles. G. S. Meserve.

as to street and railroad cars, threshing machines and steam road rollers. In general, horses take fright only at objects that are new and strange to them; so the more common automobiles become in a place the fewer will be the runaways. This is well proved on Long Island—New York's great market garden and country home. Farm horses on the roads there hardly wink a lash or do more than prick up an ear when a 60-horsepower touring car flashes past them at a fast rate trailing a cloud of dust behind. Even at night they take no notice of the fearsome sight of a huge car with dazzling lights approaching.

An amusing story in this respect is told by the Brooklyn Star. A country storekeeper on Long Island whose horses had refused to get used to automobiles, bought a horse that had been condemned for the delivery service of a New York department store. The animal trotted serenely past the biggest and noisiest machines on the Island, and the storekeeper was so pleased that he decided to sell his other horses and put city nags in their places. But his joy didn't last long. The first time the ex-department store steed met a cow he cut up worse capers than any native horse did over an automobile.

As there are more cows than autos in that part of Long Island, the city horse has had to go back to the paving stones.

Lancia's Gordon Bennett Fiat racer has been capsized and wrecked on the Auvergne course.

Some Problems of the Automobile.

A Simple Discussion of Fundamental Principles of Car and Motor Design in Locomotion on the Highways.

By FREDERIC REMSEN HUTTON, Sc. D., COLUMBIA UNIV.

IN the last reduction, there is but one problem for the motor-car; its requirement in three words is "to get there." It is futile for the designer to buck against the natural laws which oppose the effort of the operator to "get there" unless he puts in the hands of the latter forces sufficient to overcome these resisting tendencies. It becomes therefore a question of mass to be moved and feet per minute through which this mass is to be moved against observed or computed resistances, on the one hand; and, on the other, the furnishing of a motor capable of developing, in pounds, a force and expending that through a space sufficient to balance and more than balance the resistance of the car. Attention should therefore first be directed to a study of the resistances.

The automobile problem is identical with that which has been before the mind of the railway motive power designer for many years and his method of approach, the result of experience, is probably the best for the automobile designer to follow. His method of finding the resistances offered by a car or train to motion on a track has been to interpose a device like a spring balance at the drawbar between the locomotive and its train, by which he could measure the pounds of horizontal pull which the locomotive must exert to keep the train moving at a desired speed. These spring balance devices have taken the form of specially equipped cars with dynamometric appliances so that records could be taken of effort and speed. The same thing for an automobile would be secured by the device in the little sketch appended (Fig. 1), which would indicate by the magnitude of the weight the power required to move the car on road surfaces of different sorts. The locomotive man has used for his unit the effort in pounds for each ton of weight acting vertically upon the wheels of the car. This unit he calls "pounds per ton." At slow speeds it approximates three, with heavy weights, and rises to six or eight with light weights. The minimum value for the automobile is probably in the neighborhood of eight to ten pounds.

The significant resistances to the automobile are three:

(A) Speed resistances, including effect of the roadbed.

(B) Grade resistance, result of hills.

(C) Inertia resistances in changing speeds.

Taking these up in detail the speed resistances (A) are made up of frictions in one class, road resistances, air or wind resistances.

The friction resistances are made up of:

(1) The axle frictions. These in ball-bearings, adequately designed, are reduced in the modern car to almost negligible quantities, or at any rate are so masked by other larger values that it is troublesome and perhaps not worth while to separate them out.

(2) The second friction is the rolling friction between tire and road. On asphalt this also is hard to separate from other factors, and on other surfaces in which the tire imbeds itself, the resistance passes to that offered by the road surface in a separate class.

(3) The resistances of the motor. The motor resistances in ordinary stationary practice mean the resistances offered by the machine itself when running with no load; its friction of piston rings, stuffing boxes, pressure on valves, and sliding contact at pins and bearings. In the internal combustion motor there is added to this the resistance offered by the work of compressing the mixture and some possible resistances, the result of deformation by heat or lack of rigidity in the frame. In stationary practice the friction should not reach ten per cent. of the power of the engine under its heaviest load. In the automobile it is probably, from the size of the engine, proportionately greater than this, but in good designs carefully made it should be kept low.

(4) Friction of the transmission device between motor and wheels. If this is made up of gears, universal joints and bearings, there may be a distinctly calculable loss of power in transmission, for which allowance should be made. It is probable that such transmission loss is less in the steam car than in the internal combustion type, particularly when the drive is direct without intermediate gears, and the drive is new. It may run from fifteen to thirty per cent. of the power.

(5) The resistance from the road surface is a purely experimental question, and

as yet there is little published information, the result of experiments under American conditions. The following table represents what the transatlantic experiments have given for these road values, and it will be at once apparent why the quality of the road surface makes such a manifest difference in the possible speed of a car of given capacity. These figures indicate that a dirt or gravel road produces about the same resistance on the level as would be caused by a steel track, or high quality asphalt, with a grade of 150 ft. to the mile, or more than thirty per cent:

Resistance (R) in Pounds per Ton at 2 1-2 to 5 Miles per Hour.

Road Surface.	R.	Road Surface.	R.
Railway	8	Soft macadam	97
Best asphalt	15	Best Gravel	37
Good asphalt	20-22	Best Dirt	60
Poor asphalt	30	Best Belgian	60
Light street railway	30	Best clay, dry	100
Wood or asphalt	30	Best clay, wet	110
blocks	30	Ordinary cobbles	130
Best macadam	43	Common dirt	200
Best macadam	46	Poor cobbles	240
Common macadam	50	Sand road	360
Common macadam	60	Loose sand	560

(6) The resistance offered by road obstacles is the result of the necessity for lifting the weight of the car over a projection above the road surface, or lifting it out of a depression into which the wheels have fallen and carried the car downwards with them. The occupant does not discover these projections by reason of the pneumatic tires, the springs and upholstery, which are interposed between. The motor discovers it, however, since work that has to be done in compressing pneumatics and springs ultimately comes out of the motor in replacing the living force which the car expended in hauling itself over this obstacle. A careful observer can notice the retarding of cars by the optical impression made by the revolving wheels. The spokes melt together at speed on a smooth surface, when viewed by the eye, but when an obstacle is met the spokes immediately stand out, each separately. From this it is safe to infer that a very realizable stoppage was caused, so that the optic nerve had time to receive the impression of the spokes and spaces, the difference between which could not be separated when the car was running smoothly. The pneumatic tire saves power by avoiding the lifting of the mass of wheel and axle.

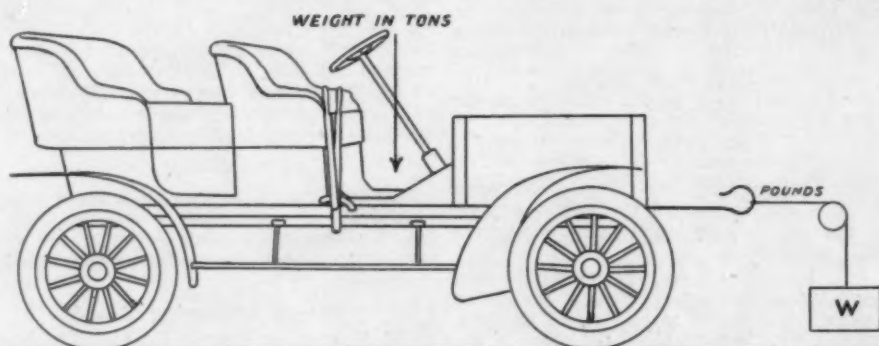


FIG. 1.

but the motor has ultimately to put back into the moving mass whatever force would be required (if the car was still) to produce that considerable "diddle" of car and passengers which happens when a large obstacle or depression is overcome at speed.

(7) The wind or air resistance usually disappears, like the axle friction, in the larger values of the road surface figures. There is no question, however, of its existence at high speeds with appreciable value. The accepted formula of the transatlantic designers makes the co-efficient per square foot of surface exposed to be 0.0017. This co-efficient multiplied by the area in square feet and square of velocity in feet per second gives a value in pounds per ton which is to be added to the previously observed or computed values.

The next great class of resistances (B) is that due to the grade. If the weight on the wedge-shaped incline of the accompanying sketch (Fig. 2) be placed at 2,000 pounds and the length of the base be 100 feet, while the height is the percentage of the grade, the resistance to be overcome in lifting this one ton up the grade will be 2,000 multiplied by the per cent. of the

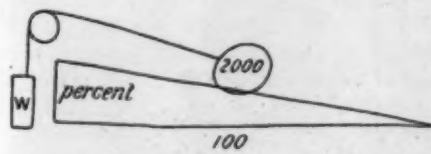


FIG. 2.

grade; the result is given in pounds. This obviously is to be added to the speed resistances.

The inertia resistance (C) is that which must be overcome in putting into the moving mass of the car the velocity in feet per second necessary to bring it up to the required speed. The greatest absorption of energy would be in starting from rest, but for any change of speed there will be such an absorption.

Expressing this amount of energy mathematically in an equation, it takes the form:

$$\text{Energy} = \frac{Mv^2}{2}$$

in which M is the mass of the car (or its weight divided by 32.2) and v is the velocity in feet per second. This is a value in foot pounds. Consequently to determine the pounds required we must fix or assume a distance in feet through which the car will be expected to move in acquiring this velocity v . If this distance is large the car accelerates slowly, but the force to accelerate is less. If we ask the car to reach this velocity in a short distance, the value of the pounds must be greater and the motor proportionately more powerful. Changing speeds from high to low or from low to high, the mathematical expression becomes:

$$\text{Energy} = \frac{W}{32.2} \times \frac{(v_1^2 - v_2^2)}{2}$$

in which the larger velocity will be first in the case where the car is speeding, and will be the last when the car is being retarded.

This same equation gives directly the amount of power which must be exerted by the brakes to stop a car of a weight W when the designer assumes the number of feet in which that number of foot pounds is to be absorbed. The car has this mass or energy by reason of its motion, and to find the number of pounds required to stop it the number of foot pounds of energy resident in it must be divided by the distance in feet in which the car is to be stopped. The equation will be the necessary number of pounds of force to stop it.

It will be plain by a reference to the first sketch and the principle of resistance in pounds per ton, that the total resistance in pounds, which may be designated R , will be [weight in tons] multiplied by [R pounds per ton].

This will be the dead pull on the spring balance, but has not as yet taken account of the space through which that pull is to be exerted in order to give the car a speed in feet per minute or miles per hour. Recalling the fundamental law of mechanics that work is the product of a force into space, we shall have, Work = [$W+R$] speed in feet per minute. It will be interesting to observe from this that inasmuch as many of the resistances included under the factor R vary with the speed, and we have introduced the speed again as a factor, these multiply the resistance by itself again. This results in an evident necessity to express the law that the resistance will vary as the second power or square of the speed.

(To be continued.)

Simplifying Valve Removal.

Removal of the valves of an engine is usually a difficult undertaking owing to the pressure of the stiff valve spring against the stop on the valve stem. This stop is commonly held in position on the stem by means of a cotter pin or a split pin, as shown in the engravings of the Crossley and Locomobile engines herewith. As the spring is very stiff, its pressure causes the pin to wedge between the cap and the stem when an effort is made to remove it; and the same reaction of the spring makes the replacing of the pin still more difficult.

To eliminate this difficulty the English makers of the Crossley car have devised the neat little arrangement shown in Fig. 1. A small, but stout screw-eye is screwed into the wall of the cylinder close to the top of the spring of each valve. A short link with a hook at each end and a forked tool with an eye in the shank and a long handle are supplied separately. By hooking one end of the link in the screw-eye and the other in the eyelet of the tool, placing the fork of the tool under the spring ends as shown and pressing down on the handle, the spring is compressed, taking the thrust off of the stop and making the removal of the pin an easy matter. This done, the valve has only to be pushed up through the cage above.



FIG. 2.—LOCOMOBILE VALVE REMOVAL.

While this appears ingenious, America can show the English makers a far simpler trick. The Locomobile Company of America has the cylinders for its engines cast with short, flat lugs on the sides of the walls just back of where the spring ends will come when the engine is assembled. By placing the special tool shown in the picture, underneath the lower end of the valve spring and resting its end on top of the lug, an upward pull on the handle will compress the spring, as shown in Fig. 2. By this most simple arrangement, no special tool is required, although one with split end to straddle the valve stem is supplied; the chauffeur or repairman can pick up any ordinary tool nearest to hand, a file, cold chisel, screwdriver, or even a flat bar of steel or iron, and do the trick.

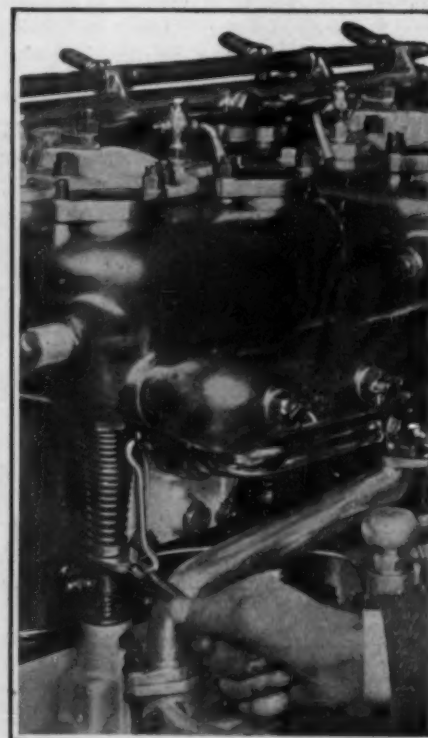


FIG. 1.—CROSSLEY VALVE REMOVING TOOL

Salesrooms and Garages of Paris—II.*

From Our Own Correspondent.

ALL the Paris garages are not on the Avenue de la Grande Armée, for in the rue d'Anjou, near the fashionable Madeleine church, is the Paris-Automobile, a model establishment, and the Paris home of the Oldsmobile and the Hotchkiss, under the management of Mr. Henry Fournier. On the street front is a show room with full glass front, to the right of it large iron gates fitted with ground glass windows, and further to the right the apartment of the *conciERGE*, or porter. Entering by the central door, which in winter is always kept closed, but opened by the *conciERGE* from the interior of his apartment immediately on the ringing of the call bell, the visitor finds himself in a lofty entrance hall. On the left-hand is the entrance by glass door to the show room, and on the right the porter's dwelling, and a little cabin in which the guardian keeps a minute record of the arrival and departure of every car, and also has charge of the keys for the chauffeurs' lockers. As every person who enters the garage can be seen by the porter or his wife from their room, and every car must pass within a few inches of the guardian's cabin, the control is absolutely perfect. One guardian remains on duty all night and two during the day.

At the back of the show room are a number of offices, each communicating with the interior of garage. They consist of telephone room, waiting room, manager's office, private office, counting house and lavatory. The garage is a square hall lighted by the roof, with a deep recess fitted with three galleries, reached by a staircase in the rear and hydraulic elevator in front, and having extensive repair shop in the basement.

*Concluded from Issue of April 15, 1905, p. 483.

Along the sides of the galleries and the ground floor are numbered cabins for the use of chauffeurs. In one corner is the gasoline store, a small cabin made of steel and plate glass, the latter being lined with strong wire netting. Owing to police regulations forbidding more than 1,500 litres of gasoline being kept in stock, the supply is taken twice a day—morning and night. Near by is the spare-parts shop, and below it, in the basement, the tire store. During the season a very large quantity of tires of all sizes is kept in stock. The garage has a capacity of 400 cars; there is a charging station for electric vehicles; at night it is well lighted by big arc lamps, and the heating is assured in winter by five coal stoves burning day and night. Provision is made against fire by extinguishers placed on the walls all around the building. Two staffs of men are kept for washing cars, both day and night. Except for cars just passing through town, garage is paid by the month, the inclusive price covering one washing a day.

KRIEGER ELECTRIC GARAGE.

If judged by the small entrance and modest sign, the Krieger garage might pass as one of very little importance; yet for size and completeness of equipment it is probably the most important garage in the world. This establishment, which was specially constructed and fitted up by the Krieger Electric Company about a year ago, communication to every part of the garage.

is a central garage and charging station for its own electric vehicles in private use in Paris, for mixed vehicles (gasoline and electric) and for ordinary gasoline cars. At the main entrance, Rue de la Boétie, protected by big double doors, is a waiting and inquiry room supplied with all the daily and automobile papers, and having telephonic



FRONT OF KRIEGER GARAGE, THE LARGEST IN PARIS.

Opposite is a wooden cabin with glass front, in which the porter sits and controls the arrival and departure of all cars, and from which also he mechanically opens and closes the inner doors, giving access to the long passage leading up to the garage. Under the entrance is a large cellar, from which a tunnel runs to the engine house at the far end of the garage. Four elevators, specially constructed to receive sacks of coal (in Paris coal is always delivered in small sacks of 50 kilos) communicate with the tunnel and allow the coal to be lowered, loaded on trucks and wheeled on rails to the opposite end of the garage, without the coal carts entering at all. At the opposite end of the long passage is the telephone cabin on the left-hand side, and facing it, the manager's rooms, consisting of ante-room and private office, both furnished and decorated in the best style by Maple & Co.

The garage covers a total area of 4,360 square meters, which includes the ground floor, one large gallery, and a second gallery, the steel work of which is already up, but which will be floored only when extra space is needed. Owing to the heavy weight it has to bear, the frame work of the galleries is specially strengthened, and the flooring is of concrete. In the basement at one corner of the garage is the generating



KRIEGER GARAGE, SHOWING ONE FINISHED GALLERY AND FRAMEWORK FOR ANOTHER.



INTERIOR OF "PARIS AUTOMOBILE," UNDER MANAGEMENT OF HENRY FOURNIER.
This is the Paris Home of the Oldsmobile and Hotchkiss Cars.—Note the Three Galleries.

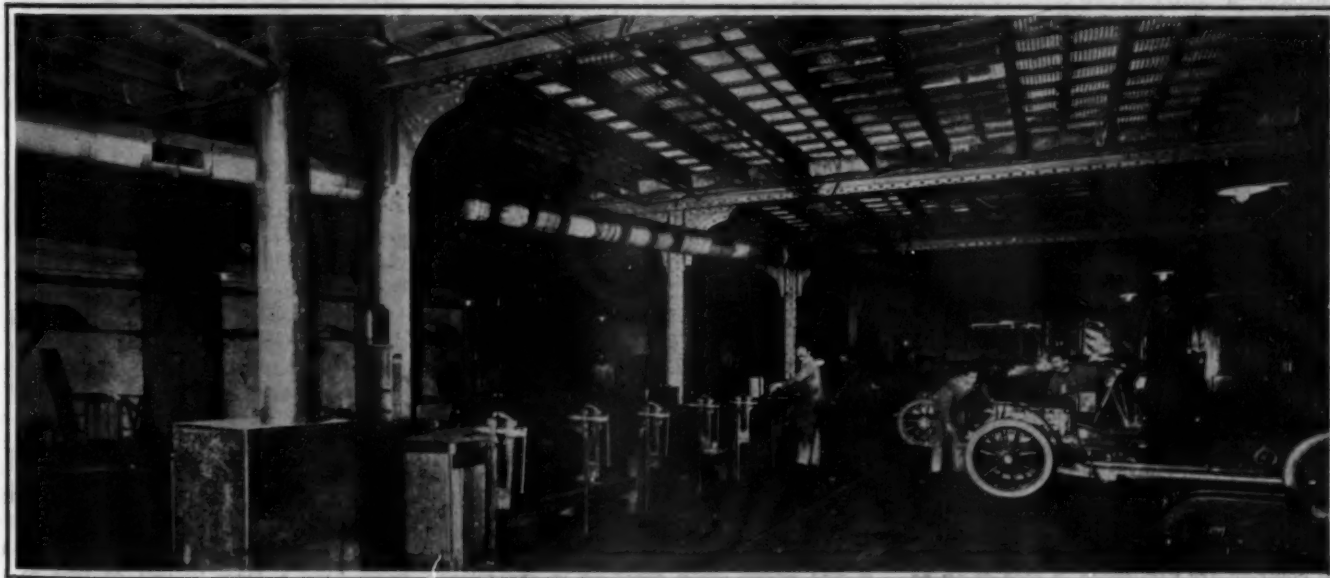
station, so completely installed that the company is altogether independent of outside supplies. Gas is produced by four suction gas producers, for making gas suitable for driving purposes and to supply all the engines, namely, two Westinghouse 120-horsepower engines, one of which was exhibited at the Paris Salon and is now being erected; one 60-horsepower Westinghouse; two 60-horsepower Charron horizontal engines, and one Crossley horizontal engine of 35 horsepower. The electric power produced is 2,500 amperes at 500 volts. The main switchboard is on a small gallery at the rear of the garage, overlooking the engine room.

Owing to the garage being situated in an aristocratic residential quarter, it has been necessary to make special provisions to ensure quietness of running. The exhausts

of all the engines pass into one common main, which has been sunk to a great depth in the ground. The roof of the engine room, which forms a kind of terrace, is of great thickness and has in it several layers of cork, which deaden all sound; and the engines and dynamos are on such solid foundations that there is not the least vibration. An artesian well has been sunk close by the engine house, and is worked by an electric pump, so that the garage is quite independent of city water for washing purposes. On the first balcony is the reservoir of water with a capacity of 80 cubic meters. Near the engine room also are two furnaces for the hot water heating apparatus. The water pipes are hung just below the first gallery, and have sufficient power to keep the garage at a temperature of 12 to 15 degrees C., even in the coldest weather. At the oppo-

site side of the garage to the engine room is the repair shop, supplied with a long pit, forge, lathes and other tools, driven by three electric motors. Here again layers of cork have been used in fitting up the shafting in order to reduce noise and vibration to a minimum. In another corner of the building is the shop for repairing batteries.

The whole of one side of the floor of the garage under the gallery is reserved for gasoline and mixed cars. Electric cars are charged on three sides of the building, and the center of the garage is always unencumbered. The garage accommodates 300 cars, leaving all center of floor free, and 100 cars can be charged at the same time. Charging takes place from 1 p. m., to 3 p. m., and from 7 in the evening to 9 in the morning, the power plant only running during these hours. During the rest of the day light and power are furnished by a battery of 500 amperes on the gallery. A special indicator is fixed at the head of each row of cars under charge, by which can be seen at a glance the amount of electricity that any car has received. The garage is never closed, for nearly all the electrics are charged at night. The price for garage and washing of cars is \$12 a month, for either electric or gasoline cars, which price includes one washing per day. Garage alone costs \$6 a month. Electricity is charged according to quantity taken, and repairs by the hour. Most of the electric cars in the garage are private vehicles in daily service. A few are the company's own cars let out on hire pending the completion of new cars on order; the gasoline cars are of various makes, and the mixed cars are, of course, of the company's own manufacture. Although now very few in number, it is quite certain that a very large number of these cars will be in use before the end of the year, the experimental stage having now been passed and construction begun in earnest. The garage is always under strict surveillance, the garage manager's



INTERIOR OF THE CHARRON GIRARDOT & VOIGT REPAIR SHOP, IN BASEMENT UNDER GARAGE.—LIGHTED DURING DAY FROM ABOVE.

office is placed on a raised platform, overlooking the whole of the ground floor, and the manager or his assistant is always in attendance. In addition, a porter is permanently on duty at both the outer doors and inside the garage.

Access to the gallery is obtained by staircases at each corner and by an elevator capable of carrying three tons. New cars and vehicles left in garage for lengthy periods are stored here. All along the walls are charging stations for electric cars, and the gallery is of sufficient width to allow of the passage of a large car even when a row of vehicles are standing against the wall to receive their current. On this gallery are also the offices for the correspondence department, directors' offices, counting house and waiting rooms. In one corner is a small paint shop and upholsterer's shop. Behind and above the offices just mentioned, are the spare parts and tire stores. All the necessary interchangeable parts for Krieger cars are kept in stock. Gasoline is stored in the 5 liter tins underground. On the same floor is the chauffeurs' room, fitted with lockers, lavatories and a cold douche, and heated by a coal stove.

In the Avenue Montaigne almost at the corner of the Champs Elysées is another electric garage belonging to the Electromotion Company. It serves as central offices and garage for the company, whose works are just outside Paris, and accommodates 30 cars, most of which are the company's own vehicles let out on hire. A 50-horsepower gas engine drives the dynamo, and there is a workshop for light repairs and a shop for the care of accumulators. The arrival and departure of every car is controlled, and on entering the drivers give an account of the car's performance, and state if any repairs are necessary. All spare parts are kept in stock, and a number of spare wheels are always on hand, so that in case of a puncture the chauffeur has only to run to the garage and have the wheel changed—a matter of two or three minutes.

The centralization of the automobile industry is shown by the fact that although there are 133 garages in the city of Paris, only one of these is situated on the south bank of the river Seine, the Hallot garage, 38 rue Vaneau, with accommodation for 50 cars.

Within the past week five persons have been run down and killed by automobiles in New York City. Evidently public safety demands something more than the mere fining of those who drive their machines at reckless speed.—*Springfield (Mass.) Union.*

Yes, public safety demands that children and adults should learn that the streets are for vehicular traffic and that when they run or step into the roadway without taking the simple precaution to look to see if any vehicles is approaching, they are not only endangering life and limb, but may be guilty of contributory negligence in case of an accident.

Successful Flux for Aluminum.

By RENE M. PETARD.

PARIS, April 16.—The periodically recurring news that an aluminum solder has been found has made its appearance again lately after a long delay. This time, however, there is good reason for believing it, as French capital, which does not often risk itself in too windy schemes, seems to endorse the new discovery, a strong company having been formed for its exploitation.

As is generally known, the great difficulty in soldering or welding aluminum is the lack of stability of this metal when in the presence of air, especially when the atmosphere is damp. The outer surface of any aluminum part, whether it be made by casting, laminating, cutting or hammering, is oxidized very quickly when in contact with air. When the first film of oxide is formed, however, it acts as a preserver, a sort of paint, that keeps the metal underneath from further oxidation. This explains, incidentally, why it is so difficult to obtain a high polish on aluminum, and why this bright surface cannot readily be retained.

Diameter of wires in millimeters.	Section in square millimeters.	Breaking load in kilograms.	
		Actual.	Per sq. mil.
0.35	0.09	1.445	16.5
0.35	0.09	1.420	15.7
0.35	0.09	1.375	15.2
0.35	0.09	1.445	16.5
1.6	2.00	20.00	20.0
1.6	2.00	16.00	8.0
2.2	3.8	43.00	11.3
2.9	6.6	74.00	11.2

This outer oxidation, which is so preservative in its effect, is the cause of most of the troubles, great or small, that are experienced by users of aluminum. It often happens that aluminum castings are porous—full of small holes—and lack strength, the vibrations and shocks of usage causing the metal to crumble into cinder-like fragments, a condition known in America as "rotten." It is this partial oxidation also that has kept inventors or experimenters from obtaining satisfactory results when attempting to unite aluminum pieces, since between the two parts to be joined a film of oxide was formed at once, preventing the union of the parts, as a layer of talcum between two pieces of rubber makes it impossible to unite them.

Despite the many valuable properties peculiar to aluminum, the inability to solder or weld it has prevented its extensive use in many directions. Alloys that held promise of being good aluminum solders have been produced in a few cases by the metallurgists who have worked on the problem during the last few years since the production of the metal has become an industrial fact, but the test of time invariably proved that the solder was such only in appearance. Pulling strains always caused breakage at the joint, or the solder or flux used would act chemically or electrically upon the aluminum or the metal to which it was united, soon resulting in separation or disintegration at the joint.

A substance has, however, been found at last which, while preventing the instantaneous oxidation from taking place during the uniting process, will also produce an intimate union of the molecules of the metal, shrinking them together, so to speak, so as to condense the metal at the place of union and thus make it stronger even than the rest. The substance is present only during the welding process and disappears after the work has been performed, leaving only pure metal at the joint so that no change of either chemical or physical properties need be feared.

This substance, answering so many exacting and widely different requirements, comes from a mine in France, and when prepared and ready for use is a white powder, similar to the well-known brazing compounds. Searches have been made all over France by experimenters in order to find other deposits of the same mineral, but without success.

Joints made with the substance have recently been tested by official experts, and the results have been made public, as follows:

Elongation.		
Per cent.		
..	{	Soldered wire normally broken out of
..		soldered joint.
..		Non-soldered.
..		
..		
4	{	In all cases the break occurred out of
6		the soldered place.
13		
18		

The official report from which these figures are taken also added that the chemical analysis which was made showed that the metal at the joint was always exactly of the same chemical composition as the rest of the metal, the proportions in alloys remaining unaltered and no foreign substances being found in the weld.

The means of using the powder are as follows:

When it is desired to unite two parts together, the pieces are held in the desired position, the powder is spread over the joint to be made, and a gas blow-pipe is used to heat the spot; a foam is formed over the place where the powder was and a gas is produced; when cold, the foam is scraped off and a perfectly united joint is found.

The substance can be used in a different way: The metal parts can be heated to melting point and the powder thrown on them, with the same result.

The substance is also especially useful in foundries. When molten aluminum is poured into the pockets previous to filling the molds, a great mass of oxide is formed on the surface of the liquid, and the chances of obtaining internally oxidized castings are very great. This is obviated by putting some of the powder in the pockets with the metal. Castings thus obtained are remarkable for the toughness of their grain and their increased tensile strength. At the same time a large source of loss to the founders is eliminated.

Preparations for French Cup Eliminatorys.

Special Correspondence.

PARIS, April 22.—With but eight weeks separating us from the eliminating race, preparations are again being pushed rapidly forward, and it is certain that June 16 will find a circuit as perfectly organized as it is possible for human ingenuity to make it. The brunt of the work falls upon the Automobile Club of France and the Auvergne Automobile Club. Wherever necessary, the road is being resurfaced and the curves rectified; materials for constructing the barricades are being brought up, the grandstands erected and the telegraphic system installed. Wireless telegraphy will not be adopted owing to the unsatisfactory results obtained last year.

The most interesting piece of work on the circuit is the construction of bridges over the level crossings at Laqueuille, Vauriat and Volvic. This work is being carried out under the direction and entire responsibility of the Paris-Orleans railway company, but the cost will be met by the Automobile Club of France. Each of the bridges will be eighteen feet wide, of which fifteen feet will be the roadway, the remainder forming two narrow footpaths. The Laqueuille and Volvic bridges will be about 125 yards long; the Vauriat bridge measuring about 140 yards. The height of the bridges is about twenty-three feet, the grade being ten centimeters per meter. In addition to these, foot bridges will connect the two sides of village streets where barricades have been erected. Most stringent measures will be taken to prevent accidents to spectators, and on no account will the public be allowed on the circuit during the races. Sunday last an excursion was organized over the circuit by the Auvergne Automobile Club, in which a large number of automobilists took part, and was closed by a banquet at Pontaumur.

Nearly all the competitors have completed their arrangements for the housing of themselves and their cars during the racing period. The Hotel Metropole at Royat will be the headquarters of the committee of the Automobile Club of France, of the delegates of the German, Swiss, Italian and British clubs, and of the Continental Tire Company. The Italian Fiat firm will have its headquarters at the Hotel Terminus at Clermont; and the Richard-Brasier team will be housed in the Pestel Garage at Clermont. The Mercedes people have secured very extensive quarters for their large staff and most of the French competitors have either rented complete villas or secured accommodations in hotels.

The Mercedes team is looked upon in France as one of the most formidable ever put upon a circuit. The drivers will be Baron de Caters, of Belgian nationality; Jenatz, the 1903 winner, and Hieronymus, a driver not so well known as the two first, but one who has already shown remarkable coolness and control in races. The first

German Mercedes car is just finished and will make its trial trips in a few days with Baron de Caters at the wheel, in the south of Germany.

The three Austrian Mercedes cars are on the point of completion, and are expected to be on the road in about a fortnight. They are in all respects similar to the sister cars built at the Unterturckheim factory, and much more powerful than last year's racers. The three drivers will be Alexander Burton, the Englishman, who was engaged to drive a Mors car before this firm withdrew from the contest, Werner and Braun.

Switzerland will be represented in the Gordon Bennett race by three Dufaux cars, piloted by Ch. Dufaux, J. Dufaux and Melas. Two of the cars have eight-cylinder engines, of 90 horsepower, and one has a four-cylinder motor of 150 horsepower. They are fitted with Michelin tires, Longuemare carbureter, Eisemann magneto and Mors spark plugs. The Dufaux brothers have already visited the circuit.

The Automoto car entered at the eleventh hour, and constructed by the Société Anonyme de Constructions Mécaniques de la Loire, has a four-cylinder motor 170 mm. by 150 mm. bore and stroke, developing 80 horsepower. The side frames are of pressed steel, built very low, with wheels of 105 cm. in front and 120 cm. behind. The wheelbase is 2 m. 75 cm. and the track 1 m. 35 cm. Lubrication is entirely automatic; honeycomb radiator; metal-to-metal clutch. The change-speed gear is new and consists of three speeds in direct gear, with ball bearings throughout. Transmission is by chain.

LOCAL FÊTES IN AUVERGNE.

The program of events to be held in Auvergne in the interval between the eliminating race and the Gordon Bennett cup, has just been drawn up. On Sunday, June 18, will be held the mile and kilometer races, flying start, under the patronage and the regulations of the A. C. of France. On Thursday, June 22, there will be a competition of flower-bedecked automobiles, held at Royat, followed by a procession to Clermont; Sunday, June 25, will be given up to a big tourist competition, and during the period excursions will be organized to points of interest in the district. The A. C. of Auvergne has also decided to create a challenge cup to be competed for annually in the district.

AIX-LES-BAINS MEETING.

It is unfortunate that the big automobile meet to be held in the fashionable holiday district of Aix-les-Bains should clash with the local fêtes in Auvergne. The date chosen is from June 20 to 28—the interval between the eliminating and the Gordon Bennett races. Ten thousand dollars in

prizes will be offered for a tourist competition extending over three days, speed tests of three, five and ten kilometers, power boat races on Lake du Bourget, and a battle of flowers. The distance from Auvergne to the neighboring province of Savoie, is so little and the attractions both of scenery and sport so great that it is easy to predict a great success for the Aix-les-Bains meeting.

The Monaco meet is to be followed up by lesser auto boat gatherings in the Mediterranean, and the season will be brought to an end only by the cross-Mediterranean, Algiers-Toulon race May 5 to 8. Fifteen boats are entered. The competing craft will be towed or carried on steamer deck to Algiers, and will start from there for Mahon on May 5, the start being so arranged that all boats should arrive before nightfall. The second stage of the race will be run on May 7, the boats leaving the African coast at an early hour for Toulon. The auto boats will be accompanied by a fleet of torpedo boat destroyers, six of which will be French, four Italian, four Spanish, and doubtless some destroyers from the British Mediterranean squadron. The prize list represents a value of \$25,000, the first prize, the Mediterranean Cup, a magnificent carved silver trophy, being the gift of C. L. Charley, the Mercedes representative in France. Fêtes and regattas have been organized on an extensive scale at Toulon. The Minister of Marine has given his patronage to the cross-Mediterranean race.

DEATH OF TWO PIONEERS.

Death has removed two pioneers of automobilism from our midst during the past few weeks. Colonel Renard, who died suddenly on April 13, at Chalais-Meudon, near Paris, the scene of most of his scientific labors, was most popularly known as the inventor of the Renard trackless train. The present complete ballooning corps of the French army was largely organized by Colonel Renard. It is curious to note that the trackless train, invented by a French army officer, has been first adopted for military purposes by the German army authorities.

By the death of M. Forestier on April 6, the Automobile Club of France has lost one of its founders and the technical committee its distinguished president. M. Forestier was a civil engineer of great repute, had been superintendent of public works in the French colonies, and head superintendent of roads and bridges in France. It was owing to his efforts that the laboratory of the Automobile Club was founded in 1902, and to this work as well as to industrial vehicle competitions and fuel consumption tests he devoted particularly close attention.

Mr. Loreau, who was this week elected president of the technical committee of the club, is a Chevalier of the Legion of Honor and President of the Society of Civil Engineers.

Text of Indiana's First Auto Law.

THERE is considerable stir just now in the cities throughout Indiana over the fact that less than one-tenth of the automobiles being operated on the streets are carrying license tags, as required by the new automobile registration law, passed by the last legislature, which has just become effective. Probably the general failure to comply with its provisions is due to the fact that this is the first state law that Indiana has ever had relating to automobiles, and that not much publicity had been given to it up to a fortnight ago.

Following is the text of the law in full:

Section 1. Be it enacted by the general assembly of the state of Indiana, that the words and phrases used in this act shall for the purpose of this act only be construed as follows: 1, "Motor vehicles," shall include all vehicles propelled by other than muscular power, excepting traction engines, road rollers and such motor vehicles as run only upon rails or track.

Section 2. That any person or persons operating a motor vehicle on any public highway or in any public place shall not operate the same at any rate of speed greater than is reasonable and proper, having regard to the use in common of such highway or place, or so as to endanger the life or limb of any person, and in no event shall such motor vehicle be operated at a greater rate of speed than eight miles an hour in the business and closely built up portions of any municipality of this state, nor more than 15 miles an hour in other portions of such municipalities, nor more than 20 miles an hour outside such municipalities.

Section 3. That any rate of speed provided in Section 2 of this act shall not be diminished or prohibited by any ordinance, rule or regulation of any municipality, board or other public authorities.

Section 4. Any person or persons operating a motor vehicle shall at all times provide the same with a good and efficient brake and a suitable bell, horn or other signal and shall, upon approaching any person or persons riding, leading or driving a horse, horses, draft animals or other farm animals upon any public highway or in any public place, signal such person or persons with said bell or horn either upon overtaking or meeting any such person or persons, giving such person or persons a reasonable time to prepare for the passing of said motor vehicle.

Section 5. That any person or persons operating a motor vehicle shall, upon meeting any person or persons riding, leading or driving a horse, horses or other draft animals or other farm animals on any public highway, upon request or signal by putting up the hand from any such person or persons, so riding, leading or driving any horse, horses or other draft animals or other farm animals, if insufficient light for such signal to be perceptible, immediately bring his motor vehicle to a stop and remain stationary so long as may be reasonable to allow such horse, horses or other draft animals or other farm animals to pass; and upon overtaking on any public highway any person or persons riding, leading or driving a horse, horses or other draft animals or other farm animals the operator of any motor vehicle when signaled as above provided, shall reduce the speed of such motor vehicle, and before passing shall allow reasonable time for such animal to be

driven or conducted to the side of the road: Provided, that the driver of any horse, horses or other draft animals or other farm animals shall, upon the approach of any motor vehicle, drive to the right so as to give to said motor vehicle one-half of the traveled portion of the highway or street, and the operator of any motor vehicle, upon the approach of any driver of horse, horses or other draft animals, or other farm animals, shall drive his motor vehicle to the right so as to give one-half of the traveled portion of the highway or street to the driver of said horse, horses or other animals.

Section 6. That every owner of a motor vehicle shall, for every such vehicle owned by him, file in the office of the secretary of state a statement of his name and address, with a brief description of the vehicle to be registered, on a blank to be prepared and furnished by such secretary for that purpose. The filing fee shall be \$1 all of which fees to be paid into the general fund of the state treasury as other fees now collected by the secretary of state are required to be paid into the treasury.

Section 7. The secretary of state shall thereupon file such statement in his office, register such motor vehicle in a book to be kept for that purpose, and assign it a number, beginning with the No. 1 and so on in the order of filing.

Section 8. Every person, acquiring a motor vehicle shall file a like statement with the secretary of state, and such secretary of state shall in like manner file such vehicle and assign it a number. If the vehicle has previously been registered such fact and number assigned it shall be set forth in the statement and the previous registration shall be cancelled, but the number of such previous registration may be assigned under the new registration.

Section 9. The secretary of state shall forthwith on such registration and without other fee issue and deliver to the owner of such motor vehicle a seal of aluminum or other suitable metal, which shall be circular in form and two inches in diameter, and have stamped therein the words, "Registered in the office of secretary of state, of Indiana, under the motor vehicle law, No. —," with the registration number inserted therein, which seal shall thereafter at all times be conspicuously displayed on the motor ve-

hicle to which such number has been assigned.

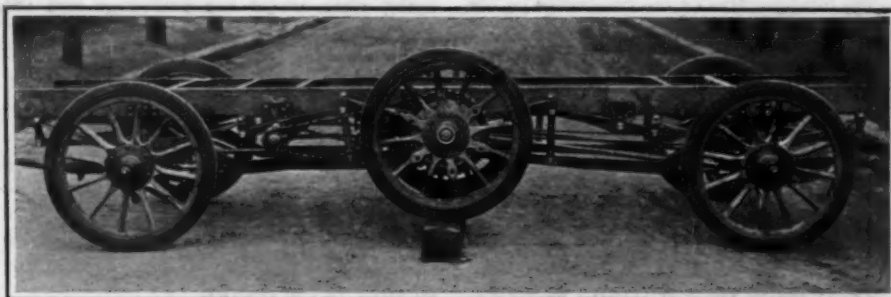
Section 10. Every motor vehicle shall also at all times have the number assigned to it by the secretary of state displayed on the back of such motor vehicle in such manner as to be plainly visible, the number to be Arabic numerals, each four inches in height, and each stroke to be of a width of one-half inch, and also as a part of such number the first three letters of the state name, such letters to be two inches in height, and no other designating mark shall be required by any city, town or other municipality, nor shall any city, town or other municipality require the payment of any license upon any motor vehicle or by the owner thereof, unless such owner reside in such city, town or other municipality.

Section 11. A manufacturer of or a dealer in motor vehicles, shall register one of each style or type to be manufactured or dealt in by him and be entitled to as many duplicate registration seals for each type or style so manufactured or dealt in as he may desire on payment of an additional fee of 50 cents for each duplicate seal. If a registration seal and the corresponding number shall thereafter be affixed to and displayed on every vehicle of such type or style as in this section provided while such vehicle is being operated on the public highways, it shall be deemed a sufficient compliance with Sections 6, 8 and 10 of this act, until such vehicle shall be sold or let for hire. Nothing in this section shall be construed to apply to a motor vehicle employed by a manufacturer or dealer for private use or for hire.

SECTION 12. The provisions of Sections 7 to 10, inclusive, shall not apply to motor vehicles owned and operated by non-residents of this state, provided the owners thereof have complied with any law requiring the registration of owners or in force in the state, territory or federal district of their residence and the registration number showing the initial of such state, territory or federal district shall be displayed on such vehicle substantially as provided by Section 10 of this act.

Section 13. If any person neglects or refuses to comply with any of the provisions of this act he may, on conviction thereof, before any justice of the peace or other court having jurisdiction, be punished by a fine not exceeding \$50.

Section 14. All laws and parts of laws in conflict with the provisions of this act are hereby repealed.



First glance at the running gear illustrated herewith leads to the impression that it is some new six-wheel freak. Instead, it is the ingenious running gear invented by Colonel Renard, of France, for use on his automobile train in which each car is driven and steered, the middle pair of wheels being the drivers. Power is transmitted from the motor car at the head of the train. For steering, the front and rear pairs of wheels turn at equal angles but in opposite directions, and in precisely the same degree as the wheels of the motor car and other trailers ahead. In the illustration the pieces of planks under the middle wheel are to demonstrate the flexibility of the running gear to accommodate it to the inequalities of road surfaces. Note the toggle arrangement of the springs; also the "tongue" at the left end for connecting with the car ahead.

NEW MAINE LAW REQUIRES LICENSES.

Embraces Rules of the Road and Speed Limitations of the Law of 1903— Licensing and Numbering Provisions Similar to Those of Other New Eng- land States.

The new law relating to automobiles passed by the legislature of Maine this spring, and which is now in effect, is a codification of the law of the road applying to all vehicles and horse and ox teams, of the automobile law of 1903 regulating the speed of such machines, and additional sections requiring the licensing of automobiles and operators with the secretary of state.

Sections 7, 8, 9, 10, 11 and 12 of the new law are verbatim copies of sections 1, 2, 3, 4, 5 and 6 of the act approved March 28, 1903. They limit the speed of automobiles to eight miles an hour within the compact or built-up portions of any city, town or village, "the limits of which shall be fixed by the municipal officers thereof," except where such city or town may by ordinance or by-law permit a greater rate of speed, and anywhere else in the state outside of such town limits the speed must not exceed fifteen miles an hour, at the same time providing that no automobile shall be driven in any public highway or park drive "at any speed greater than is reasonable and proper, having regard to the traffic and use of the way by others, or so as to endanger the life or limb of any person, and racing any such vehicle on any such ways or parks is hereby forbidden."

Section 9 requires every person driving an automobile to come to a stop as soon as possible "at the request and signal, by putting up the hand or by other visible signal, from a person riding or driving a horse or horses or other domestic animals," and to "remain stationary so long as may be necessary to allow such animal or animals to pass."

A bell or other suitable warning device capable of being heard 300 feet, is required by section 10, which also provides that every automobile "shall also carry a lighted lamp between one hour after sunset and one hour before sunrise."

Municipal officers of any city or town are given authority in the succeeding section to designate places on streets and roads, by the erection of signboards bearing the words "Automobiles go slow," where, because of exceptional natural conditions, the meeting of horses and autos would be attended with unusual danger. At such places so marked the speed is limited to four miles an hour, and an automobile, "before meeting any horse * * * shall be brought to a standstill, and shall not proceed, unless by request of the rider or driver of the horse, until such horse shall have passed."

Punishment for violation of any of the foregoing provisions is fixed at a fine not exceeding \$50 or by imprisonment not exceeding ten days.

The new registration and numbering provisions are embraced in new sections numbered from 17 to 22 inclusive. They are evidently based on the Massachusetts law of 1903, which has been extensively copied by New England states, but, although much of the wording is identical, there are some important changes that make the Maine law resemble more closely the new law of New Hampshire. Following is the text of these sections in full:

Section 17. All automobiles and motor

vehicles shall be registered by the owner or person in control thereof in accordance with the provisions of this act. Application for such registration may be made, by mail or otherwise, to the secretary of state upon blanks prepared under his authority. The application shall, in addition to such other particulars as may be required by said secretary, contain a statement of the name, place of residence and address of the applicant, with a brief description of the automobile or motor vehicle, including the name of the maker, the number, if any, affixed by the maker, the character of the motor power and the amount of such motor power stated in figures of horsepower; and with such application shall be deposited a registration fee of two dollars. The said secretary shall then register, in a book to be kept for the purpose, the automobile or motor vehicle described in the application, giving to such automobile or motor vehicle a distinguishing number or other mark, and shall thereupon issue to the applicant a certificate of registration. Said certificate shall contain the name, place of residence and address of the applicant, and the registered number or mark, shall prescribe the manner in which said registered number or mark shall be inscribed or displayed upon the automobile or motor vehicle, and shall be in such form as the secretary may determine. The secretary of state shall also furnish the applicant two enameled iron plates containing the word "Maine" in letters not less than one inch in height, and the number of registration in Arabic numerals not less than four inches in height. The number plates must be attached to the front and back of automobiles, and one number plate must be attached to the back of motor cycles. On both automobiles and motor cycles the numbers must be so placed to be always plainly visible. A proper record of all applications and of all certificates issued shall be kept by the secretary of state in his office, and shall be open to the inspection of any person during reasonable business hours. The certificate of registration shall always be carried in some easily accessible place in the automobile or motor vehicle described therein. Upon the sale of any automobile or motor vehicle its registration shall expire, and the vendor shall immediately return the certificate of registration to the secretary of state, with notice of sale, and of the name, place of residence and address of the vendee.

Section 18. Every manufacturer of or dealer in automobiles or motor vehicles may, instead of registering each automobile or motor vehicle owned or controlled by him, make application upon a blank provided by said secretary of state for a general distinguishing number or mark, and said secretary may, if satisfied of the facts stated in said application, grant said application, and issue to the applicant a certificate of registration containing the name, place of residence and address of the applicant, and the general distinguishing number or mark assigned to him, and made in such form as said secretary of state may determine; and all automobiles and motor vehicles owned and controlled by such manufacturer or dealer shall, until sold or let for hire or loaned for a period of more than five successive days, be regarded as registered under such general distinguishing number or mark. The fee for every such license shall be ten dollars.

Section 19. Licenses for operating automobiles and motor vehicles shall be issued by the secretary of state. Application shall be made upon blanks prepared by the secretary of state for this purpose, and the licenses issued shall be in such form and shall contain such provisions as said secretary of state may determine. To such li-

censee shall be assigned some distinguishing number or mark, and a proper record of all applications for license and of all licenses issued shall be kept by the secretary of state at his office, and shall be open to the inspection of any person during reasonable business hours. Each license shall state the time (name?) place of residence of the licensee and the distinguishing number or mark assigned to him. The fee for each license to operate shall be two dollars. All fees shall be deposited at the time of making the application. The secretary of state may at any time suspend or revoke any license for any violation of this act or regulation made thereunder. Before a license to operate is granted the applicant shall present such evidence as to his qualifications as may be required by the secretary of state.

Section 20. Except as otherwise provided herein, no automobile or motor vehicle after the first day of June, nineteen hundred five, shall be operated upon any highway, townway, public street, avenue, driveway, park or parkway, unless registered as heretofore provided, and no person shall, on or after the first day of June, in the year nineteen hundred five, operate an automobile or motor vehicle upon any highway, townway, public street, avenue, driveway, park or parkway unless licensed to do so under the provisions of this act.

Section 21. Automobiles or motor vehicles owned by non-residents of this state, and driven by a person licensed in this or in some other state, may be operated on the roads and highways of this state, unless prohibited by special law or town ordinance duly authorized by the legislature, subject, however, to the provisions of sections seven, eight, nine, ten, eleven and twelve and provided that such person shall show in front and at the back of his automobile, and at the back of his motorcycle, the registration number granted him in such other state, and the name of the other state in Arabic letters at least one inch high. The provisions of this and the preceding sections shall not prevent the operating of automobiles by unlicensed persons if riding with or accompanied by a licensed operator.

Section 22. Whoever violates any provision of the five preceding sections shall be punished by fine not exceeding fifty dollars, or by imprisonment not exceeding ten days.

An interesting argument has been raised by Mr. Bradley Westminster, city engineer, London, regarding the deteriorating effect produced by motor traffic on wood-paved streets. This effect has long since been acknowledged for macadam roads, and finding the disintegration of wood streets in his province had become a very rapid one, Mr. Bradley commenced watching the effects of automobiles on the wood. According to his theory, based on a year's careful study, the rubber tires suck the creosote out and scatter it in the form of dust, thereby destroying the preservative action of the creosote. This statement is of unusual interest at present owing to the new act which will very soon come into force in England and permit higher speeds to commercial automobiles.

A very handy thing for the automobilist to keep in his tool box is an assortment of wire nails of various sizes. These nails may often be used to replace split pins and the like.

Austin 50-Horsepower Touring Car.

THE Austin touring car, built by the Austin Automobile Co., of Grand Rapids, Mich., is a high-powered machine with a vertical four-cylinder motor of 50-horsepower hung very low under the straight-sided, round-topped bonnet, the low height of the latter giving the car a distinctive appearance. While the photograph does not show it, the car is really a large one, the size of the wheels and tires, the low bonnet and the good proportions of the side entrance body all tending to give rather an idea of smallness when no means of making comparisons are at hand. The side doors are large, the seats roomy and high-backed, and the motor is stated to develop a maximum of more than one-horsepower for every fifty pounds weight of the car.

The frame differs considerably from the frames usually—almost invariably, in fact—found in cars of similar size and power.

cross members to the other. In the case of the motor sub-frame, the angle steel is flattened out at each end to form wide palms through which the rivets are passed. The frame for the motor is dropped, while the transmission case frame is straight, the arms cast on the case extending upward and allowing the casing to hang sufficiently low to align with the motor. Brackets on the ends of the motor crankcase are bolted directly to the cross pieces. The total length of the frame is 135 inches; its width at the front 33 inches, and from the dashboard back it is 37 inches wide.

The motor has four vertical cylinders of 5 1-2-inch bore and 5-inch stroke, and is rated at 50-horsepower at 1,200 revolutions a minute. An extreme range of speed of from 120 revolutions a minute, minimum, to 1,500 revolutions a minute, maximum, is claimed, these speeds corresponding to car speeds of

in diameter, and have hard cast-iron heads shrunk on steel stems; the bearing faces are flat, as in the inlet valves.

The pistons are 7 1-2 inches long, with five rings in individual grooves, four in the top of the piston and one near the bottom, where it serves to spread the lubricating oil. Piston pins are of steel, and hollow, 1 1-2 inches outside diameter, with 3-4-inch hole; the bearing is a plain bronze bushing, forced into the rod. Screws tapped through the piston pin bosses pass through the wall of the pin and are secured by split pins inside the piston pin, thus forming an exceedingly safe fastening.

Cast steel of I-section is used for the connecting rods, the big ends being of the marine type, with bronze boxes secured by steel bolts and castellated nuts. The boxes are fitted to their journals by hand. The crucible steel crank-shaft has five bearings, there being three bearings between the cylinders and one at each end; bearings are 1 3-4 inches in diameter and 3 inches long,



AUSTIN SIDE-ENTRANCE TOURING CAR, FITTED WITH 50-HORSEPOWER VERTICAL FOUR-CYLINDER ENGINE.

Angle steel is the material used for main frames, cross members and the sub-frames which carry the motor and transmission gear case, the main frames being two inches wide and three inches deep. Large gusset plates are riveted into the corners, and the points at which the side frames are offset to narrow the frame at the motor space are re-enforced by heavy spring steel plates riveted on the inside. In the main frames and end members the angle steel is set with the narrow horizontal web pointing outward and the wide vertical web pointing upward, while in the intermediate cross members and sub-frames the vertical webs point downward. An inspection of the accompanying engraving, in which the frames are visible, will make this clear. The sub-frames are simple and substantial, each consisting of a pair of cross members, reaching entirely across the main frame, to which is added, in the case of the transmission frame, a pair of short pieces extending from one of the

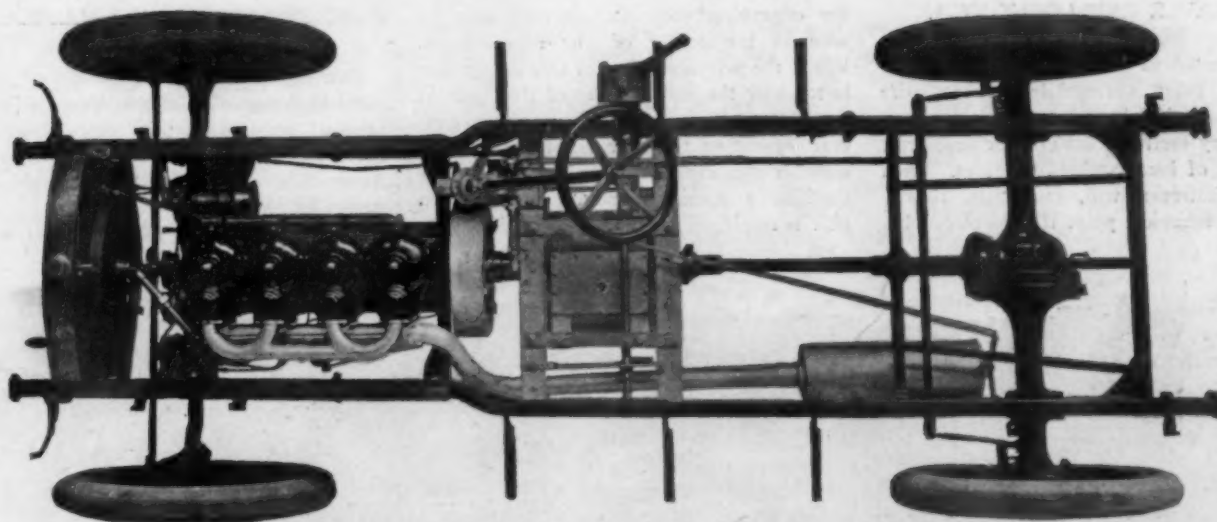
5 miles an hour and 60 miles an hour, respectively. Cylinders, heads and water jackets are cast integral, the latter extending down below the lowest point reached by the top of the piston; each cylinder is a separate casting.

All the valves are placed on the left-hand side; an interesting point is the method of arranging the intake valves. These are automatic, and each cylinder has three small valves instead of the customary single one. The three valves are set as close together as possible in a cast-iron nest 2 3-4 inches in diameter (a flange bringing the total diameter of the nest to 3 1-8 inches) which screws into the valve chamber. Each valve has a diameter of 1 1-8 inches, the bearing surface being flat; the ports have a diameter of 7-8 inch. This valve arrangement has been adopted after trial of ordinary valves two inches in diameter; the multiple valves were found to be more satisfactory in every respect. The exhaust valves are 2 3-8 inches

with the exception of the bearing at the fly-wheel end, which is 4 inches long.

Ignition is by jump spark, current being supplied by a Remy magneto gear-driven from the motor shaft, the machine being secured to the front motor support on the right hand side of the engine. On the opposite side, also driven from the motor shaft, is a Hill Precision oiler, the individual pumps of which force oil to the various points to be lubricated. A small rotary pump on the motor shaft circulates the jacket water; the radiator is composed of gilled tubing disposed horizontally, a large fan, belt-driven from the motor shaft, greatly assisting the cooling operation.

A large cone clutch, of the well-known type, is operated by a pedal. The hub of the clutch forms the one member of a slip-joint, the other member being the forward end of the first shaft of the transmission. The transmission is of the selective sliding gear type, giving four forward speeds and



CHASSIS OF AUSTIN CAR, SHOWING INLET AND EXHAUST VALVES ON LEFT SIDE OF ENGINE.

reverse with a single lever. The reverse is obtained by dropping a pinion, mounted between two swinging arms, into mesh with a pinion on the countershaft and a gear on the squared shaft; the movable pinion is operated by an outside arm engaged by a cam on the gear shifting shaft when the gear lever is moved into the proper position; and is held out of engagement at all other times by a spring. Ball bearings of the Mercedes type are fitted to the transmission shaft journals.

A large brake drum is placed on the rear end of the last shaft of the transmission gear, and close to the drum is the universal joint for the forward end of the propeller shaft, which drives the live rear axle through bevel gears. Two steel castings, well ribbed, form the casing for the rear axle, the bevel gear and spur differential casing; this axle runs on roller bearings.

Both front and rear wheels are 36 inches in diameter, of the artillery pattern, and are fitted with 4 1/2-inch tires. Lemoine steering pivots are used; the front axle is of forged steel, of rectangular section. A heavy worm and nut steering gear is employed, the parts being made from hard bronze castings and very strong. The front wheels turn on roller bearings.

The springs are all three-quarter elliptic, the short top member of each taking the place of the usual spring hanger attached to the frame end; the rear springs are 45 inches long, with more than half their length in front of the rear axle; and the front springs are 42 inches long, centrally hung. All the springs are directly under the frame, not offset.

The weight of the car is 2,400 pounds; wheel-base, 108 inches. The brakes are arranged contrary to the usual practice, the transmission brake being operated by a side lever and the hub brakes by the right hand pedal, the object being to bring the greater part of the work of braking on the hub brakes, relieving the shafts and gears of all but occasional braking strains. Either brake will readily lock the wheels of the car.

This car can be supplied with a motor of 35-horsepower, the remainder of the machine being precisely the same as in the 50-horsepower machine; the price is naturally considerably lower with the smaller engine. Five lamps, tools and spare parts form the equipment of the car when sold.

Foreign News Notes.

An interesting two days' meet will be held during the Whitsun holidays in the second week of June, at Filey, in Yorkshire, England, when one-mile speed trials with flying starts are to be held on the Grand Parade. A motor camp is being arranged for on the Filey Sands from Friday to Tuesday, and the races form part of the program. It is hoped that international entries will be received.

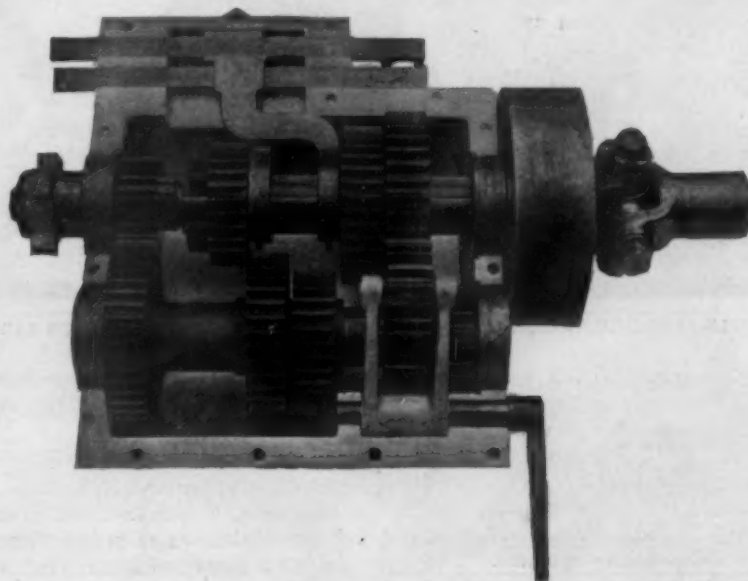
Joseph Lisle, a well-known British motorist who was to pilot a Star in the English Eliminating Trials on May 30, had his license suspended recently and was disqualified from obtaining another for the next

two years, owing to a smashup he had early in the month while trying his racing car near Wolverhampton. An appeal was entered against this decision, as it would prevent Mr. Lisle driving in the Gordon Bennett trials.

As the police traps on English roads are catching many unwary automobilists, a firm of London dealers has organized a band of eight cyclists, armed with red flags, as a warning to drive cautiously. The patrol commenced work on the Brighton road and did very good service. It is to be kept up during the season, changing its route every week, in order to circumvent the busy police, who, encouraged by their recent huge hauls, have commenced the season with unprecedented activity.

A monster meeting of auto boats is to be arranged for next year at Palermo, in Sicily, with splendid prizes, in order to attract entries from all parts of the world.

The opening meet of the British Motor Boat Club takes place at Kingston-on-Thames on May 6.



AUSTIN SELECTIVE TYPE TRANSMISSION, GIVING FOUR FORWARD SPEEDS.

A CLEVER CATALOGUE IDEA.

There are many persons who are more or less interested in automobiles, even to the extent of being automobile owners, who have no technical knowledge and to whom an ordinary sectional drawing or blue-print is a maze of incomprehensible lines. Such persons, however, will, as a rule, readily grasp a mechanical point if it is placed be-

the engraving; the binding cord may be seen in the center of our reproduction. While the primary object of this illustration is to show the construction of the Cadillac car, an excellent idea is given of the general lay-out of the accepted type of four-cylinder car, except that in the case of the Cadillac a special planetary transmission gear is employed in place of the sliding gear

AUTO PARADE OPENS BALL SEASON.

Special Correspondence.

DENVER, COLO., April 28.—As a preliminary to the opening of the Western League baseball season in this city Wednesday about two score members of the Colorado Automobile Club paraded the principal streets of the city.

The procession was led by a band in one



MEMBERS OF COLORADO A. C. AT DENVER BALL PARK AFTER PARADE THROUGH DOWNTOWN STREETS.

Governor Jesse F. McDonald of Colorado, and Mayor Speer and other City Officials of Denver were Guests in the Members' Cars.

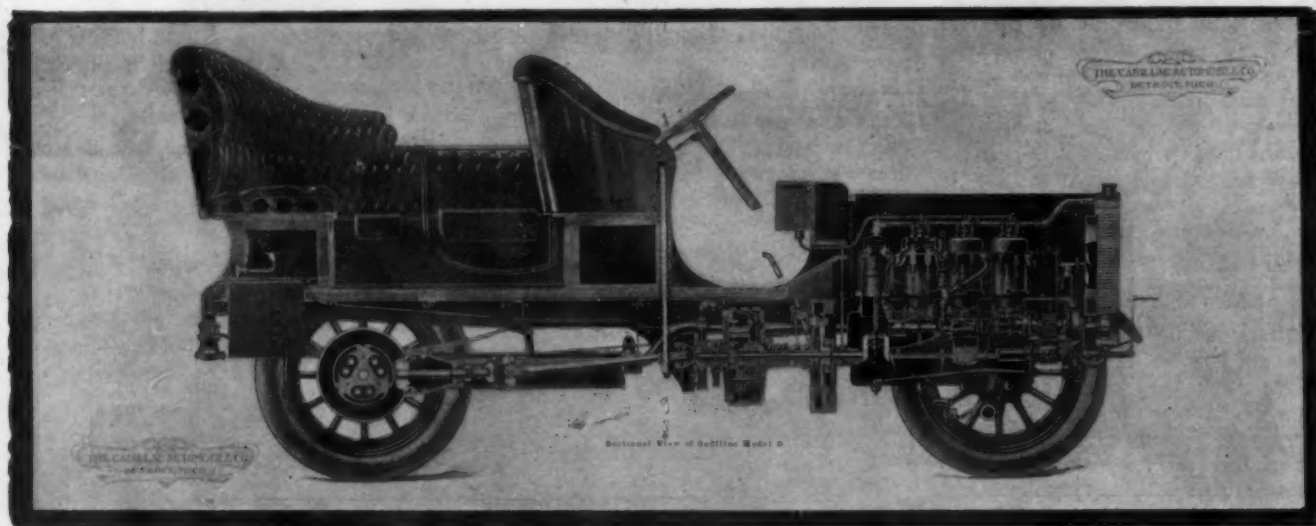
fore them in the form of a picture—something they are accustomed to and can take in at once. Such pictures are frequently made of parts of automobiles, but it remained for the Cadillac Automobile Co., of Detroit, Mich., to produce the first sectional picture of a complete automobile, showing every part from the radiator to the rear springs as they would appear if split verti-

which is more commonly found in cars of this general type.

An automobile will sometimes perform some very fantastic figure-skating evolutions, under certain conditions; but it is not intended for this form of amusement and usually suffers more or less severely after indulging in it. So don't jam on the brakes

of John Kuykendahl's large automobiles, and in line were some of the best-known automobilists in the city. The first car following the band carried Governor Jesse F. McDonald, the guest of Thomas Daley, and this was followed by D. C. Packard, carrying Mayor Speer and other city officials.

It is a very common thing to see auto-



DOUBLE-PAGE ILLUSTRATION OF VERTICAL SECTION OF COMPLETE TOURING CAR—UNIQUE FEATURE OF CADILLAC CATALOG.

cally and photographed. The picture appears on the two center and opposite pages of the new Cadillac catalogue, and represents the latest Cadillac car—the 20-horse-power four-cylinder machine. The inside of the catalogue is here reproduced, very much reduced in size, the original being very large and beautifully executed. Two full pages of the catalogue are required for

enough to skid the wheels, especially in wet weather, except in case of real emergency.

Why are automobile drivers' coats trimmed with Persian lamb? To show fur. This little effort is submitted, not so much for its coruscating wit as to help Carnegie in his educational mission.—*New York Herald.*

mobiles running along with their tires in trolley car tracks, especially in badly paved streets, but the practice is not to be recommended, for the chafing and possible cutting of the tires by roughness on the rails is apt to do far more damage than a road that is simply rough, especially if the gauge of the track does not correspond exactly with that of the wheels.

Letter Box

Wants to Climb Hills.

Editor THE AUTOMOBILE:

[195].—I have an automobile that gives more speed than I want, and not enough power in hill climbing. Will it be policy to reduce the size of the sprocket on the transmission shaft? What will be the increase of power if this is done?
S. S.
Lafayette, Ind.

Evidently your car is geared too high, and a lower gear should be applied. This will probably remedy your trouble; but be careful not to gear so low as to cause the motor to race when driving the car at normal speed on the level. Knowing nothing whatever about your car, it is impossible to say what you will gain by a reduction. If you will give details as to power, speed, gearing and type of car a more definite reply will be possible.

Shoe on Another Foot.

Editor THE AUTOMOBILE:

[196].—There are others besides the automobilists. It's "up to" the horsemen this time. Clipped from the *Montrose Republican*.
H. W. B.
Montrose, Pa.

ENCLOSURE.

"There is altogether too much fast driving on the main traveled streets of the town, and many narrow escapes, especially among the children, are reported. One such instance of a little girl on Maple street being very nearly run over by a young man who was out for a drive is reported, and frequently even older, and many times feeble and aged people have their lives endangered by these drivers of the 2.22 class. Small children playing in the street may often escape the attention of the driver, who is generally giving most of his attention to his equine's "fine points," and for the safety of the pedestrians in general they should curb their steeds and moderate their speed."

One Day's Shipments.

Editor THE AUTOMOBILE:

[197].—The enclosed photograph shows eight commercial cars, one day's output, the largest since we have been building these cars. We shipped twenty cars on April 15

eight commercial cars and twelve pleasure cars, the total amount of cash involved being \$50,000.

The two cars on the left of the photograph are 'buses, which were shipped to Japan; the next two were for the Singer Sewing Machine Co., of New York city; the fifth for the Aeolian Co., New York city; the sixth for the Singer Machine Supply Co., Brockton, and the two on the right for the Van Sciver Co., Camden, N. J.

We have also received an order for three commercial cars for Adams Express Co., Pittsburg, Pa., a city noted for its hills. Our factory is now running night and day.

KNOX AUTOMOBILE CO.

Springfield, Mass.

Mt. Washington vs. Pike's Peak.

Editor THE AUTOMOBILE:

[198].—In your Denver correspondence of April 29th, a claim is made that the road up Pike's Peak, the noted mountain to the west of Denver, is twice the length of Mt. Washington, which was brought prominently forward last summer when the "Climb to the Clouds" took place.

Your correspondent says that the length of the Pike's Peak climb next September will be seventeen miles. The length of Mt. Washington Carriage Road from the Glen to the Summit is eight miles, so that the Denver climb will not be twice as long. I notice that your correspondent gives the elevation of Pike's Peak as 7,000 feet and that the average rise in the distance is 400 feet to the mile. The height of Mt. Washington, according to Colton's General Atlas of North American Mountains, is 6,428 feet, which would give an average rise of over 800 feet to the mile, 803 1-2, to be correct. This would therefore make the rise in the Mt. Washington climb more than twice the rise as that given in the Pike's Peak climb. Colton's Atlas of North American Mountains, by the way, does not mention Pike's Peak, although it gives eighty-six mountains, the greatest height above sea level being that of Mt. St. Elias, of the Coast Range, 17,900 feet, and the smallest of the mountains is that of Bunker Hill, Boston, sixty-two feet.

As a climb, therefore, it would seem to me that Mt. Washington will hold its own with any other mountain climb, as there is no doubt about its being a pretty tough proposition for any car to climb. It was a

remarkable fact that so many cars climbed it last summer and in such good time.

The merit of the Pike's Peak climb seems to be in its length rather than in its steepness, and I trust that our Western friends will have a grand success in their first annual climb.

W. J. MORGAN.

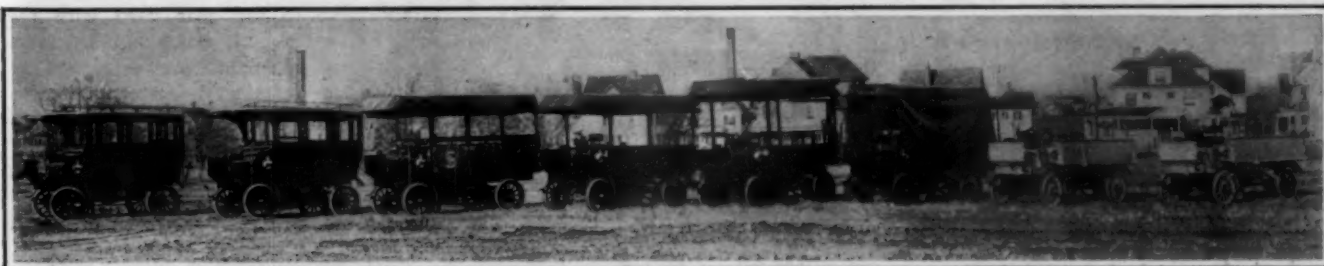
New York City.

Evidently our correspondent is a very busy man or a hasty reader; otherwise he would hardly have committed himself to the errors in the foregoing letter. First, he tells us that because the Mt. Washington road is eight miles long, the seventeen-mile road up Pike's Peak cannot be twice as long, although he were taught in about the first grade of grammar school that 2 times 8 is 16, and a simple process of subtraction will show that the Pike's Peak road is not only twice as long as the Mt. Washington course, but has one mile to spare for good measure.

Our correspondent in Denver did not say that the elevation of Pike's Peak is 7,000 feet. If Mr. Morgan will take the time to read the article in our April 29 issue to which he refers, he will find that the statement is made that an elevation of 7,000 feet is to be attained in a seventeen-mile run. Further on in the same article, but evidently overlooked, is the statement that the top of Pike's Peak is 14,107 feet above sea level. Rand, McNally & Co.'s Atlas of the World gives it as 14,147. Our Denver correspondent can hardly be held accountable for the shortcomings of "Colton's Atlas of North American Mountains," if it considers Pike's Peak too insignificant to enumerate in the same list with Bunker Hill.

In any case, the elevation of the top of a mountain above sea level has nothing to do with the gradient of a road up to it; the average grade depends on the length of the road and the elevation of the point at which it starts. The road to be used in the Pike's Peak climb starts at Cascade, which, as stated last week, has an elevation as great as that of the top of Mt. Washington, being located on a plateau 7,000 feet above sea level.

Mr. Morgan will hardly maintain that the point where the Mt. Washington road starts at the Glen is at sea level. After he has subtracted the altitude of the Glen from the 6,428 feet of the mountain top he will probably be disappointed to find that an automobile rises considerably less than 800 feet to the mile in making the ascent.



ONE DAY'S OUTPUT OF COMMERCIAL VEHICLES SHIPPED APRIL 15 BY KNOX AUTOMOBILE CO.

We see no reason for doubting the assertion of our Denver letter that "the ascent of Pike's Peak will provide a contest surpassing any heretofore organized to test the capabilities of a car and the dexterity and expertness of its driver." The road to the top of Mt. Washington is a much traveled pleasure drive, but we have yet to learn that carriage parties frequent the top of Pike's Peak. However, there is no occasion for any controversy as to the relative merits of the two courses—both are sufficiently steep, narrow and crooked to afford a supreme test of both machine and man; indeed, press clippings before us as we write state that there may be a change of road this year for the Climb to the Clouds, "as the promoters are somewhat averse to repeating the Mt. Washington test, owing to the danger such a feat entails," because of the deep ravines skirted and the heavy fogs that shut down quickly.

THE AUTOMOBILE GRAFTER.

The pompous personage with the predominant jowl stepped into the automobile agency with the assurance born of an unlimited bank account, says the New York Sun.

"Ah," he murmured, "just what I have been seeking—an American built machine of power and stability."

"Yes, sir," said the eager salesman, "our motor car is daily winning new laurels."

"So I understand. And only \$3,585, with a guarantee, eh? Well, I am the sort of a man who makes up his mind quickly and acts on it. Certainly the machine is cheap at the price, if it lives up to what is claimed for it. But that's the question, sir, that's the question."

"We are always glad to prove the splendid qualities of the machine," put in the polite salesman.

"Good. Now, before I close a deal with you, I would like to take a test trip to bring out these qualities."

"Certainly, sir; certainly."

"Now, I must take my wife along to prove to her the safety of the auto. Fortunately, she is outside talking with a party of friends who are just about to attend a reception in the suburbs. Of course, you have no objection to the party being my guests on the trip out there?"

"Not at all, sir, providing you deposit twenty-five dollars for the expenses of the chauffeur, wear and tear on the machine, and so on. Of course, it's a mere formality. The money will be refunded to you after the sale."

The pompous personage grew very red in the face.

"Let me see! Er—er—I'm not particularly pleased with your make of machine, anyhow," he said, "and I am going down the street to another automobile salesroom, where they extend courtesies to possible purchasers."

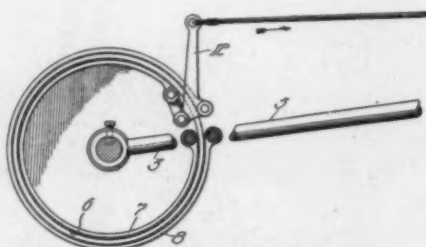
"Then, good day," said the wise salesman, who had recognized the new variety of automobile grafter.

Patents

Double Acting Brake.

No. 788,464.—B. H. Green, of Los Angeles, Cal.

The brake drum 6 is acted on by both internal and external bands 7 8, whose fixed ends are supported, as on the radius rod 3,



GREEN DOUBLE ACTING BRAKE.

and the free ends tightened by the toggle mechanism actuated by 12. The inventor claims as one advantage of his device that the tangential pull of the outer band is offset, as regards its effect on the shaft bearings, by the opposite thrust of the inner band.

Movable Glass Front.

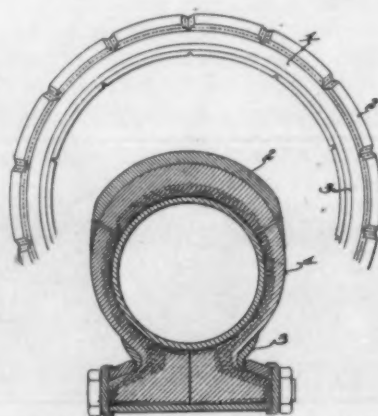
No. 788,188.—C. E. Chamberlin, of Detroit, Mich.

This is a glass front attached at its four corners to a pair of L-shaped rods which run up from the dash to the vehicle top and thence just below the latter horizontally a suitable distance back. The four attaching devices for the glass front comprise clamps and swivels, and when loosened on the rods they will run up and back on the latter, carrying the glass frame with them out of the way under the top.

Pneumatic Tire Casing.

No. 787,898.—L. C. Cummings, of Brookline, Mass.

This is substantially an ordinary tire casing 1, with segments 2 of leather cemented to its tread, and stitched through around their edges, as shown in the large view in dotted line. The leather strips 3 are added



CUMMINGS PNEUMATIC TIRE CASING.

to prevent rim cutting. The inventor states that before applying the leather strips he boils them in gasoline to expel the oleaginous matter which renders it difficult to cement to the tire.

Tire Tread.

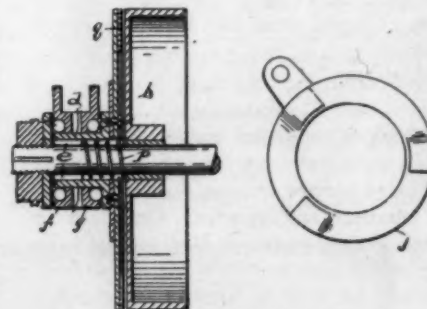
No. 787,600.—J. R. Whittemore, of Erie, Pa.

The tread is of flexible material, such as leather, and is suitably secured to the tire casing. It is studded with metallic rivets whose shanks are threaded into disks on the under side of the leather tread. The rivets are alternately with large heads and screwed into small disks, and with small heads and screwed into large disks, so that metallic protection is afforded, on one surface or the other, over nearly the entire tread.

Friction Clutch.

No. 787,072.—A. P. Brush, of Detroit, Mich.

In this clutch the driving member *q* is attached to the hub *d*, slidably keyed on the shaft, and it acts by being forced against member *b*, which is loose on the shaft until gripped by *q*. This is accomplished by means



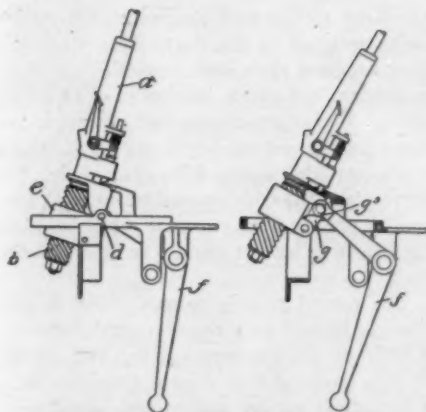
BRUSH FRICTION CLUTCH.

of the two rings *f g*, which have corresponding beveled lugs, as shown, and are mounted on ball bearings, through which the thrust acts. To tighten the clutch they are rotated with their beveled lugs against each other. They do not revolve with the shaft, and they impose a constant end thrust when the clutch is engaged. A spring *p* insures release of the clutch.

Planetary Speed Changing Gear.

No. 787,908.—H. Ford, of Detroit, Mich.

This speed changing gear is shown arranged for a longitudinal shaft drive from the motor, but is substantially similar in arrangement to the gear used with the small Ford cars. The pinion 10 is keyed on the driving shaft, and pinions 9 and 11 are loose on the same, the latter being connected through the part 25 to the squared shaft 26, connecting with the universal joint 27. The planetary pinions 3 4 5 are integral and are carried on the pins 6 in the case 2, which turns loosely on shoulders on 9 and 11. They are of such relative diameters that tightening the brake band 8 to render 2 stationary, gives the slow forward speed



LAW TILTING STEERING COLUMN.

through the motion imparted to 11, and tightening 19 on the drum connected to 9 gives the reverse. In this position 9 acts as a fulcrum, and 5, being smaller than 3, imparts the reverse motion to 11. By tightening the clutch at the left end the disk 30 is pressed against the adjacent disk and that against the case 2, from which the pressure is transferred through 17 to the disk 21 keyed on the shaft 10. In this position the end thrust is self-contained, and the large area of the rubbing surfaces insures indefinitely prolonged wear.

Vehicle Frame.

No. 788,108.—G. H. Jones, of Philadelphia, Pa.

This invention comprises, first, a frame with the cross-pieces stiffened at the point of junction with the side members by triangular gussets, and also by diagonal brace bars; and, second, a gear box supported on the cross members and having secured rigidly to it transverse housings enclosing the sprocket shafts and providing bearings therefor. These are attached to the side members, and the general intention is to make everything as rigid as possible.

Tilting Steering Columns.

No. 788,053.—F. A. Law, of Hartford, Conn.

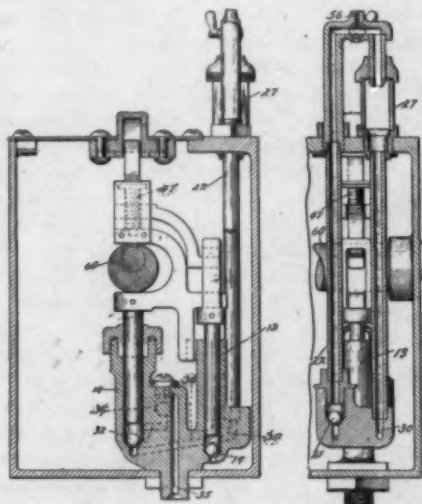
The column is carried in a bearing *a* whose base terminates in a bracket pivoted at *d*. The steep pitch screw *b* at the base of the column works in a nut *e*, which is

connected to the bell crank *f* through a short link *g*. To prevent the nut from rotating with the screw, ears *g'* are provided, one on each side of the bell crank. This link *g* permits the column to be tilted without sensibly affecting the steering, and when the upper end of the link is in line with *d*, which is the case with the nut in mid-position, the steering is not affected at all.

Force Feed Lubricator.

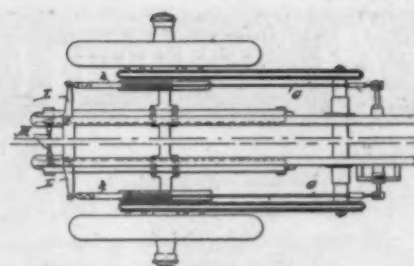
No. 787,155.—E. Denegre, of Chicago, Ill.

The special feature of this lubricator is that, instead of relying on a single plunger to feed the oil, two plungers are used, connecting in series so that the oil passes through them one after the other. The second pump is larger than the first, and an inlet is provided between the two by which air is permitted to enter to the amount necessary to make up the difference in the pump



DENEGRE FORCE FEED LUBRICATOR.

sizes. By closing this air inlet the second pump is made to produce a suction on the first pump, for the purpose of freeing the check valves of the latter in case they become stuck; and in the same way if the check valves of the second pump become stuck the first pump will force oil through them and free them. The arrangement of the parts is indicated in the two sections shown. The oil enters the first pump 13



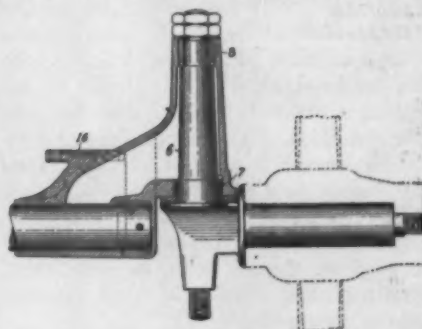
CHADWICK BRAKE EQUALIZING DEVICE.

through the check valve 19, and is discharged through another check valve 21 (seen in the second figure) into a pipe 22, at the top of which is the air inlet 56, controlled by the cock shown. A sight feed 27 indicates the flow of oil, which passes down and through passage 30 to the suction of the second pump 14, and finally is discharged through the dotted check valve 34 to the outlet 35. The pumps are worked by the eccentric 60, and the rate of feed may be adjusted by the screw 47, which determines the amount of lost motion between the actuating mechanism and the first pump. Owing to the air suction previously mentioned, there is no need of adjusting the second pump.

Brake Equalizing Device.

No. 787,892.—L. S. Chadwick, of Ridley Park, Pa.

This patent claims what is generally supposed to be an old device, viz., the use of a pair of bell cranks *L L* connected by a rod *M* to equalize the pull on the brake bands *h h*. The tension rods are indicated by *G G*. In the drawing the central portions of



MADDEN AXLE STUB.

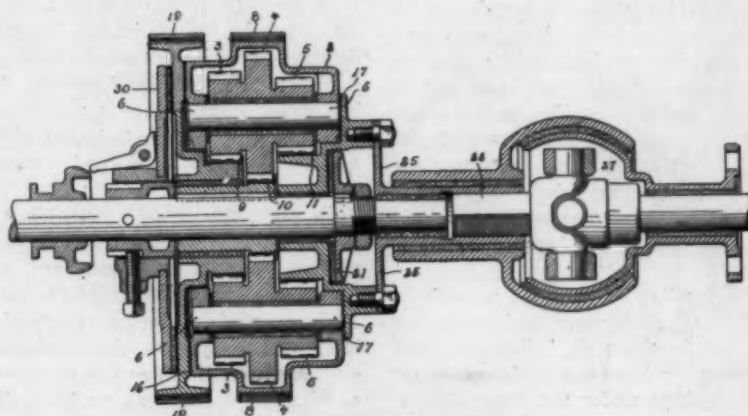
the vehicle are cut away and the sides brought close together, as indicated by the chain lines.

Axle Stub.

No. 788,271.—A. F. Madden, of Newark, N. J.

This is a hollow casting designed for the axles of heavy vehicles. It is cored hollow, as shown, and is bushed for the steering knuckle spindle 6 at 7 and 8. The spring seat is indicated at 16.

Judging from the pictures of New York's Easter parade, they don't take the autos to church. All who ride appear behind horses. Perhaps the auto people were too busy to go to church.—*Boston Herald*.



FORD PLANETARY SPEED CHANGING GEAR.



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Fake Gasoline "Explosions."

Gasoline is not a liquid that should be handled carelessly in the presence of an open flame of any sort; it is too volatile, and its vapor, when mixed with air and ignited, is capable of such sudden and violent expansion as to produce disastrous results under certain circumstances. But liquid gasoline or pure gasoline vapor is not explosive; it would be just as easy to make a tank full of water explode as a tank full of gasoline, though public opinion insists upon regarding gasoline in much the same light as gunpowder.

To this belief is due not a little of the prejudice that exists in the minds of many persons against the gasoline automobile—in fact, it is not at all rare to hear a man state that his only objection to the automobile is the fact that the passengers must sit over a tank full of a highly explosive fluid; or to hear one express wonder as to how a man can have the hardihood to risk his life by sitting over a gasoline tank in momentary peril of being shot heavenward by an explosion, and chauffeurs are considered by such persons to be either marvelously courageous or else reckless and foolhardy.

While this may seem a rather strong statement, it is not at all overdrawn, and persons holding just such ideas can be found without difficulty. The electric ignition apparatus is also frequently believed to possess the most astonishing power of making

mischievous, and is thought to be capable of "throwing sparks" in any direction, even into the gasoline tank, and thus causing the most terrible "explosions" of gasoline.

It is unfortunately true that the daily newspapers, in their anxiety to get good, hair-raising, sensational stories, circulate the most impossible tales concerning mishaps due to gasoline, the reporters taking it for granted that the hydro-carbon, like gunpowder, will instantly explode at the touch of a spark of fire, and building their stories accordingly.

If the general public knew better than the reporters and gave these stories the scanty credence they deserve, no harm would be done; but people are prone to think that a statement that is so constantly and persistently made in type must be true, and the result of the many "gasoline explosion" stories that appear in the newspapers is that the automobile is looked upon by many as a species of death-trap, or as an alluring means of tempting Providence.

Two cases in point in the vicinity of New York were recently furnished, each of which illustrates very well the exaggerated idea of the average reporter concerning the properties of gasoline. In the first case, the story ran, a chauffeur was bringing home a large touring car after a run, when a flame was noticed shooting out from under the car. The chauffeur and his companion instantly jumped and took to their heels, getting clear of the car by only a few yards when, with a terrific explosion, the gasoline tank blew up, raising the car (which weighed a ton) high in the air and practically wrecking it after which all that was left burned down. And the curious part of it is that one paper—the New York Herald—describes vividly this awful explosion of the gasoline tank, and on the same page prints a photograph of the machine with the gasoline tank in place, and, as far as can be seen in the picture, intact.

The actual facts were that the chauffeur and his companion, noticing the flame, got out to investigate, and found that a quantity of gasoline had leaked into the pan under the car through the drain hole in the carbureter, the screw which closed the hole having worked out. The gasoline was very favorably placed for the production of vapor, spread over a wide area, and fanned by the warm air from the radiator; and some of this vapor became ignited in a way unknown, though probably from some part of the exhaust piping or muffler, as the motor had been running for some time and was quite hot. But neither the vapor nor the gasoline in the pan exploded; they burned fiercely, however, and the gasoline tank was enveloped in flames and heated to a high temperature.

Still the gasoline in it refused to explode. Finally the heat became so intense that the gasoline in the tank boiled and produced vapor or steam, exactly as water would have done under the same circumstances, the pressure of which bulged out

the sides and opened the seams, the solder being softened by the heat. Even when the seams opened there was no semblance of an explosion, the vapor issuing in a series of puffs. The liberated gasoline of course became ignited and made a fierce blaze, which destroyed the automobile completely, but there was no explosion until the tires burst, one by one, and the kerosene oil lamps blew up like little boilers under the effect of the heat.

The second case is quite a different one, though, as told by a reporter, it reflects not a little on the character of the automobile. It was reported that a large touring car in a Broadway garage was being cleaned with a piece of waste soaked with gasoline, when the waste became ignited by touching the "sparker," setting fire to the machine and damaging it to the extent of the price of a very good automobile.

The truth is that there was no one cleaning the car at the time; but some men standing near noticed that some oily or gasoline-soaked sawdust on the floor became ignited, probably from a lighted match thrown on the floor. It was soon smothered out, but before extinguishing the flames the paint on the car was blistered in two places, each about a foot square. No further damage was done to this or any other car, and a painter soon covered up the scorched spots.

In this case the unfortunate "sparker" was credited with a feat which was impossible under the existing circumstances; and the whole affair was so greatly exaggerated as to bring automobiles generally and the garage where the incident occurred in particular into most undesirable notoriety.

Most of the sensational stories of gasoline fires and explosions dwindle down in a similar manner when followed up, as these were, and the facts obtained from persons who were not only eye witnesses, but were technically qualified to give explanations.



The A. A. A. and Road Signs.

No man who has attempted the least of local tours in his own metropolitan environment can doubt how much of information he needs of the roadside dweller, or can escape recognition of how much the roadside dweller needs assurance and knowledge of him and his machine. Information for the tourist is to be first in the detail accomplishment of the national publicity campaign of the American Automobile Association, and next to it such influences on legislation are to be brought to bear as may make for good roads and the best road conditions.

So frequently in an automobile tour the question of direction is entirely secondary to the question of road conditions. A driver may take risk in direction if he be assured of a smooth roadway devoid of potential troubles. Out of this situation comes the suggestion of a uniform system of road signals as widely distributed as can be made possible through organization and club co-operation.

tion. For these the uniform characters that have been used in France, each made sharply visible upon a sheet of steel and placed in necessary position at the roadside, would prove simple, cheap and serviceable. These signals are easily seen, may be read at a glance and yet each conveys a whole paragraph of information. To have them in the measure of their need seems to call for all that is in organization and co-operation. For instance, in the practical designing and execution of these signals, the central organization would be sponsors, the state organizations might assume the material cost of the signals, and the club integers be responsible for the erection of them in the several local territories.

Here and there states have pledged themselves to fingerboards at section lines. New York may have them at crossroads if enough of taxpaying residents will petition for them. If the American Automobile Association shall establish everywhere its signal system as indexes of road condition, it will complement in this manner the work of the state to the advantage of every man who uses a road with any class of vehicle. If an automobile signal, made of a horizontal line crossed by three other horizontal lines at intervals will indicate a railroad crossing 400 yards away to the benefit of the autoist, it will indicate as much to the driver of a span of capions horses and quite as much to his advantage. Here at once would be a situation to promise reconciliation of many of the idle animosities of the road.

AUTO DAY AT PORTLAND.

Interesting Events for July 31 at the Lewis and Clark Centennial.

Special Correspondence.

PORTLAND, ORE., April 26.—July 31 has been selected as an automobile field day at the Lewis and Clark Centennial which is to be held in this city during the coming summer. A number of interesting events are being arranged, and five trophies will be offered as prizes in the several contests.

During the forenoon an automobile floral parade will be held from the center of the city to the ball grounds, where the field day events will take place. As the space available for such contests is rather limited, only a quarter-mile track can be used, thus making it necessary to restrict the program to such events as will prove most interesting and instructive. There will be no speed competitions or trials. The following is a list of events decided upon to date:

Floral parade.

Obstacle race.

Quarter-mile race for gasoline cars on high gear.

Exhibition of ancient and latest models of automobiles to show the progress of the industry.

Four-minute race, the driver who, without the aid of watch or coaching, covers the mile nearest to four minutes to be declared winner.

Five-mile start and stop race for touring cars.

Brake contests.

Governor Douglas has signed the new Massachusetts registration law, which goes into effect May 20.

Technical Information in the Salesroom.

By One Who Tried to Get It.

THE editor of the *Gas-Buggy Gazette* emerged from his sanctum one spring morning and made for the desk where the technical man was perspiring in an effort to formulate a soothing reply to a correspondent who demanded full and explicit instructions, illustrated, for making a plain but substantial touring car out of a spring wagon, an agricultural engine and two old bicycles.

"Say," he said, "I hear that Hott, Ayr & Co. have just got one of the new cars; guess you'd better take a run up there and see what it looks like, and get a good description and some photographs."

The technical man dropped the agriculturalist with a grunt of relief. "All right," he replied; "I'll go up right away; the car ought to be a crackerjack from what the agents have said about it."

He sallied forth into the streets of the great and wicked city of Gotham and entrusted his life to a trolley car, which, luckily, landed him safely at a street whose curbs were lined with automobiles of divers sorts, and whose roadway was monopolized by other automobiles, twisting and dodging one another as only automobiles can. The technical man stopped in front of a huge sheet of plate glass and looked into the room beyond, and saw, surrounded by a group of men, a shining, brand-new automobile of the light-weight touring type, and at the front stood the agent, his hat on the back of his head, and a happy smile overspreading his countenance.

The technical man entered unnoticed and stood around with the others, rubbing, until Mr. Hott, the senior member of the firm, paused in his enumeration of the endless virtues of the new car.

"Mr. Hott," said he, "I would like to get a good technical description of the new machine. I suppose you're familiar with the details. I'm from the *Gas-Buggy Gazette*."

"Sure," replied Mr. Hott, graciously; "tell you anything you want to know. Technical description, eh?"

"Suppose you'll give us a fine WRITE-UP. Tell you what, I want it to go in the next issue of your paper, because there's a couple of fellows been rubberin' round who haven't seen much in the papers about us, and I guess they're kind of struck on the car, and a good boost from you—three or four pages would do—would clinch them, maybe."

"Well, let's get down to the technical part of it. Let's see, now; what'll you have first?"

The technical man suggested starting with the motor.

"Oh, yes, sure," the agent rattled on. "Well, she's rated at 20-horsepower, but, Lord, that's all d—rot. I know she's good for thirty at least; why, I had her out last night, and I tell you its straight goods, we ran rings around everything on the road;

licked the stuffing out of a 40-horsepower French racer and choked up one of Bander-vilt's 60-horsepower touring cars with our dust."

"Why, she's the best thing in the country at the price—or at any price, and you can't—"

"But," interrupted the technical man, mildly, "what about the motor? What's the bore and stroke, and the valve arrangement and so on?"

"Well, I guess it's about five by five—no, it ain't, either, it's four by five—that's the same size as my kodak; funny, ain't it? A regular coincidence."

"Automatic inlet valves? Sure; everything's automatic, pretty nearly, except the steering; you don't even have to crank the motor to start it—at least nine-tenths of the time. Just give the spark handle a little twiddle, and away she goes! Carbureter's automatic, too; don't even have to look at it. Why, I haven't even seen it yet, and—"

"What kind of a carbureter is it, Mr. Hott," inquired the technical man.

"Why, one of these float feed rigs—you know; uses less juice than an other gas-maker on the market. And, say, there's something funny about that carbureter; she makes the strongest mixture that ever was. Maybe I don't know it! Why, I was starting her up last night, when she gave a back kick that nearly broke my arm—"

"What's that? Automatic back kick? Why didn't I start with the switch? Er—oh, I guess I was thinking about that French machine I was running last night. *THIS* car wouldn't do a thing like that—not by a jugful! They've cut out all those old-fashioned troubles—no bother, no worry, no hold-ups, no nothin'."

The technical man was getting desperate, but returned to the attack from another point, hoping for luck.

"How about the transmission?" he asked; "sliding gear, I suppose?"

"Sliding gear nothing," said Mr. Hott, contemptuously. "Think a concern like this wants any out-of-date notions of that sort? Not by a jugful! Why, we've got something here that beats anything you ever heard of. You can't tell when you shift from one speed to another; but that doesn't matter much, because you can run all the time on the high gear—any old speed, from almost nothing to—well, you wouldn't believe me if I told you."

"Say, here's another point you don't want to miss. You never heard of anything like the bearings in this here machine; anti-friction bearings all over—motor, transmission, axles and everything—all the same kind. Slicker than grease; that's one reason why she runs so fast. That's a strong point, and I want you to bring it out good and strong in the WRITE-UP."

"Balls or rollers?" inquired the technical

"Balls or rollers?" inquired the technical man, hope again rising faintly in his breast.

"They're the very finest kind of bearings that money can buy," replied Mr. Hott. "We control the patents and no one else can use them. No friction at all; don't need oiling only once a year or so.

"Only last week the agent for the car across the street there brought a factory expert over to see me to find out if there was any chance of getting our bearings on his car; offered most anything if we'd let him use them. 'Back to the woods, young feller,' says I; 'we can't make bearings fast enough to put on our own cars; agents all over the country howling for machines, and the machines standing in the factory waiting for bearings! Nothing doin' until we can get our own people fixed up,' says I, and out he goes with a terrible look of disappointment.

"Oh, say, be sure and put that in our WRITE-UP, and you can have this photograph of me in the machines, and don't forget to say that the editors can conscientiously recommend this car as being absolutely the best value of any car ever put on the American market, or something like that, and be sure to say—"

But the technical man was gone.

AUTO LICENSE SUSPENDED.

Highway Commission Takes Action to Prevent Reckless Driving.

Special Correspondence.

BOSTON, May 1.—The Boston police have renewed their campaign against automobilists who drive faster than the law allows, and within the past few days have had a large number in court. The police are determined to suppress speeding on the city streets, and have called to their aid the Highway Commission. That this commission is inclined to lend a hand is shown by its recent action in suspending a registration certificate and license for thirty days. This is the second time since the automobile law went into effect a year and a half ago that the Commission has exercised its power to suspend an automobilist's privileges, and on the former occasion the suspension was for ten days only. The victim of the thirty days' suspension is John W. Woodruff, of Chicago, a student in Boston, and he can neither use his own car nor operate another one while the suspension is in force. The Commission also has before it several other cases, in some of which fines have already been imposed by the courts. The recent action of the Commission is regarded as radical, and if it persists along this line there is pretty certain to be cessation of speeding.

The Highway Commission has been obliged to secure larger quarters because of the increase of the automobile business, and has now moved its registration bureau to the ground floor of the Pemberton Building, where it has a commodious office. Since January 1 there have been more than 1,200 machines registered, and the number plates are now in the 8,300 series. The registrations have been at the rate of about forty a day for the past three weeks.

A match race between Barney Oldfield and H. W. Fletcher has been arranged for the Morris Park meet May 20. Fletcher will drive O. F. Thomas's De Dietrich racer.

NEW LAW PLEASES MINNESOTA AUTOISTS.

Road Improvements Placed in Hands of New State Highway Commission and Amendment Proposed to Increase Tax for Highway Fund—Drastic Automobile Bills Killed.

Special Correspondence.

ST. PAUL, April 29.—Owners of automobiles in Minnesota are rejoicing over the creation of a State Highway Commission by the recent legislature, and at the passage of other laws looking toward the improvement of roads in the state.

The state commission will supervise the construction of roads throughout the State. Heretofore all road improvement in the country districts has been carried on by townships or counties, and as a result there has been a great lack of uniformity.

The commission will consist of three members, to be appointed by the governor and to serve without salary. The commission will appoint a state engineer of roads, whose duty it will be to prepare plans for road improvement and to investigate the need of road work in the several counties. The commission will endeavor to ascertain the most improved methods of road building by comparison of the Minnesota system with systems in vogue in other states, and will attempt to create public sentiment in favor of good roads by holding conventions and public meetings. The commission will have charge of the distribution of the state road and bridge fund, which is created by a tax of 1-20th of a mill, amounting to about \$50,000 a year.

A companion bill was also passed by the last legislature proposing an amendment to the constitution increasing this tax from 1-20th to 1-4 of a mill. Every automobilist in the state hopes that this amendment will be ratified by the people at the 1906 election, for it will mean an increase in the annual fund for road construction from \$50,000 to \$250,000.

Another measure was passed which will result in improving materially the roads in the vicinity of St. Paul. The bill gives the Ramsey county commissioners exclusive charge of the road and bridge fund, and increases the amount which may be expended each year for construction of new roads. Many improvements have already been started under this law. A new road is being constructed from St. Paul to White Bear, the famous summer resort, and to Bald Eagle Lake. Improvements are also planned between St. Paul and Como, Fort Snelling, Indian Mounds and many other favorite resorts of the Twin Cities.

Minnesota automobilists have still further cause for rejoicing. The recent legislature killed two drastic automobile bills, leaving the law regulating the speed of automobiles unchanged. One of the bills killed was that by Senator Thompson, which gave each county authority to prescribe any speed limit it might wish, and forbade driving faster than eight miles an hour within a mile of a post office or past school houses, churches, pedestrians or teams, and over dams and causeways.

TO TEST TOLEDO NUMBERING LAW.

Special Correspondence.

TOLEDO, May 1.—The police department arrested a half dozen of the most prominent citizens in the city last Saturday afternoon for not having stenciled numbers on the rear of their automobiles, as the city laws require, among whom was one automobile dealer.

All of the men arrested were taken to the Central police station, where they were released on their own recognizance. A hearing was set for early in the week, but it was later postponed for another week or ten days, when a test case will probably be made.

The reason given by the police for beginning a wholesale arrest of automobilists is the increasing tendency on the part of automobilists to disregard the city laws regulating the use of machines. The police have recently been ordered to stop all fast driving on paved streets, but as many machines do not carry numbers, it has been hard for the police to catch the guilty ones.

Automobilists are not wholly to blame, however, for violating the license ordinance. When the ordinance relating to licenses was revoked it was generally supposed that the law regulating the carrying of numbers was included. Saturday's arrests have stirred matters again, and Mayor Finch has urged council to take some action toward straightening out the tangle. He has advised the enactment of a moderate license ordinance, which will include numbers for license purchasers.

A VICTIM OF CIRCUMSTANCES.

Special Correspondence.

HARTFORD, May 1.—Ira P. Hallock, of Philadelphia, is the victim of unusual circumstances. He is now the defendant in a suit brought in the United States Court here for \$15,000 damages. He stopped in New York recently on his way to Danbury, where he went to secure counsel and to be present at the making of depositions. While in New York he was run down by an automobile on Thirty-sixth street and severely injured. When he appeared in the Danbury city court to answer to the charge against him he was battered and bruised and limped painfully.

Plaintiff in the suit claims that last August, while Hallock was a resident of Danbury, his motorcycle frightened a horse driven by James and Michael Greeley. Michael was thrown out and crippled for life. They allege that Hallock rode on without waiting to see what damage had been done and it was several days before he was identified.

BAD PRACTICES IN LOS ANGELES.

Special Correspondence.

LOS ANGELES, April 27.—The city attorney has been instructed by the city council to draw up an amendment to the hitching ordinance so as to make it prohibit the driver of an automobile from leaving his car unattended in the street with the engine running. Newsboys have already caused one automobile runaway by playing with the clutch lever of a car whose engine had not been stopped.

An amendment of the new automobile speed ordinance was also ordered drafted to make it unlawful for any person under sixteen years of age to operate an automobile on the streets of Los Angeles. It is a common thing to see children driving automobiles here.

EXPORTS OF AUTOMOBILES.

Exports of automobiles and parts from the United States for the month of March, 1905, as shown by the Government report, were \$235,826, as against \$164,406 for the same month in 1904. And for the nine months ending with March each year in the last three years the following interesting figures are given: 1903, \$759,841; 1904, \$1,305,777; 1905, \$1,638,601.

READVILLE TRACK RACES.

Bay State Association Adds to Its Program—Many Entries Assured.

Special Correspondence.

BOSTON, May 1.—The committees of the Bay State Automobile Association are busily preparing events which will make this the liveliest season that the Boston automobilists have known. Not only are the arrangements for the Memorial Day races at Readville advancing rapidly, but the runs and tours committee is preparing several trips, and the entertainment committee has some interesting event at the club rooms almost every week. Last Saturday night a dinner was given to Louis S. Ross, the occasion being the award of the Sir Thomas Dewar trophy, which was won by Mr. Ross at Ormond. The trophy was presented by George H. Rowe, president of the New York Press Club, who acted as the special representative of Sir Thomas Dewar. Mr. Ross upon receiving the trophy, handed it to J. C. Kerrison, secretary of the Bay State Association, which will be its custodian until it is competed for again.

Other speakers were W. J. Morgan, J. A. MacAlman, W. W. Burke, William Gray, Harry Fosdick and Harlan W. Whipple.

The next club runs will be on May 21, when there will be a trip to Worcester, and on June 17 and 18, when a two days' trip will be made to Rye Beach, New Hampshire.

The committee on the Memorial Day meet has decided to oil the track, thus making it safer for the racers and more agreeable for the spectators. During the week another contest has been added to those already announced. This is for American touring cars of more than 30 and not exceeding 45-horsepower, and a trophy for this race is offered by Boston dealers. The committee has already secured a number of prominent entries for the several contests. Louis S. Ross will enter a new steamer which he is having constructed, and George Cannon will drive the Grout steamer which he used at the Springfield hill climb, and with which he made the fastest time of the day. William Wallace will enter and drive his *Black Death*, and H. L. Bowden will enter his 90-horsepower racer. The 60-horsepower Napier that won the free-for-all at Springfield will be entered, and a Decauville racer is likely to be a competitor. Other probable entries are the Peerless *Green Dragon* and the *Winton Bullet No. 2*.

CROSS-CONTINENT ROUTE.

Experts to Study New York-Oregon Roads from Runabouts.

Good roads experts are to accompany the drivers who will be chosen to drive the two Oldsmobile runabouts across the continent in May. One of the experts will be James W. Abbott, special agent in the Rocky Mountain district for the Office of Public Road Inquiry of the U. S. Department of Agriculture. Mr. Abbott laid out the route that is to be followed by the automobiles, and will make observations in his official capacity during the run. He is a good roads enthusiast and is undoubtedly one of the best posted men in the country on western roads.

The runabouts are to leave the Waldorf-Astoria, in New York, on May 8, and are expected to arrive in Portland, Oregon, on or about the date of the opening of the National Good Roads Convention, to be held this summer in connection with the Lewis and Clark Exposition.

One of the conditions imposed on the drivers will be that they strictly observe the road laws of the states through which they pass. This means that they must keep strictly within the speed limits. The contest promises to be an exciting one, as the stake (\$1,000) is sufficiently large to induce the men to put forth every energy to bring out every ounce of endurance and effort of which the machines are capable. The machines to be used will be stock cars, differing in no way from the thousands of Oldsmobile runabouts in use in all parts of the country, and are essentially the same as the runabout with which, in 1903, L. L. Whitman made the record trip from San Francisco to New York, and from thence to Portland, Maine. This was the first automobile runabout to cross the American continent. Modifications in the model have been made only in minor particulars.

SECOND A. L. A. M. OUTING.

Automobile Run and Dinner Arranged for Engineers and Superintendents.

The second automobile run of the Association of Licensed Automobile Manufacturers will be held on Friday of this week, May 5, those taking part being engineers and superintendents of a number of the manufacturing companies that are members of the Association. The object of the run is to give the designers an opportunity to study the conduct of the different cars in actual operation on the road. During the course of the run the occupants of the cars will change places several times, so that all will have opportunity to note the work of as many different machines as possible. The drivers will wear numbered badges, and passengers will be provided with a card schedule showing the points where changes are to be made, and the car to which each individual shall transfer from time to time, thus avoiding any unnecessary delay and confusion.

The cars will assemble at Broadway and Seventy-sixth street, Manhattan, and the run will be made through Seventh avenue, Jerome avenue and Pelham Parkway to the clubhouse of the New York Athletic Club, Travers Island, where dinner will be served. The party will then proceed to the Larchmont Yacht Club, where a brief reception will be held, after which the trip will be continued to White Plains, Elmsford and Ardsley, and return by way of Dobbs Ferry, Yonkers and Van Courtland Park, making a total of about seventy miles for the tour.

This outing is expected to be much more largely attended than was the initial run given the mechanical branch of the Association, in October, 1904, for, besides the engineers and superintendents, a number of the manufacturers themselves and their guests will participate. It will not be restricted to American cars, but will include machines of foreign build.

On Saturday, May 6, a meeting of the Association will be held, at its quarters, 7 East Forty-second street, when the subject of "Ignition" will be discussed. Papers will be read by Hiram Percy Maxim, of the Electric Vehicle Company, and John Wilkinson, of the H. H. Franklin Company, followed by a general discussion of the subject on the part of those present.

"We have had 114 cases here to-day and I have disposed of all of them in about two hours," said Magistrate Crane, as he lectured an automobilist for speed law violation. Speaking of speed, is not a case-a-minute gait rather fast for the wheels of justice?—*New York World*.

BRIGHTON'S INITIAL MEET.

Large Entry List and Well Known Drivers for Saturday's Races.

The first of the 1905 series of automobile track events in the metropolitan district will be held at Brighton Beach track, Coney Island, New York, on Saturday afternoon, May 6, under the auspices of the Brighton Beach Automobile Club, entries for which closed on May 1. The entry list includes several fast cars and well-known drivers.

Guy Vaughan will drive the 40-horsepower Decauville; Paul Sartori, A. G. Vanderbilt's 90-horsepower F. I. A. T.; Joe Nelson, Ross' *Lightning Bug* steamer; W. F. Winchester, E. H. R. Green's new lightweight Franklin, and C. G. Wridgway, Peerless. In addition, a number of stock touring cars and runabouts have been entered, including the two Olds, which are scheduled to leave New York City on May 8 for a transcontinental trip to the Lewis and Clark Centennial at Portland, Oregon; Cadillacs, Franklins, Pope-Hartford, Queen, Maxwell, Winton, Speedway, Thomas, Peerless, Royal, English Daimler and Pipe. An interesting program has been arranged, including six regular events in addition to speed trials.

As previously announced, C. G. Wridgway, driving a Peerless, will start on this track on Friday, May 5, in an attempt to lower the present 1,000-mile track record now held by a Packard car. The start will be made at 8 o'clock in the morning, and will continue until 2 o'clock Saturday afternoon, at which time the first event of the race meet will take place. W. B. Hurlbut, of the Packard Company; Carl Paige, of the White; Guy Vaughan, Percy Owen, of the Winton, and Gaston Plantiff, of the Ford, will act as judges of the trial.

In the event Mr. Wridgway succeeds in establishing new figures, Guy Vaughan has announced his intention to make an attempt to lower them on the same track early in June, as has also C. A. Duerr with a Royal Tourist.

TO PLACE ROAD SIGNS.

Buffalo Club to Mark Cross Roads and Dangerous Grades.

Special Correspondence.

BUFFALO, May 1.—An important meeting of the Board of Governors of the Automobile Club of Buffalo was held last week, at which it was decided to erect signboards at crossroads, where necessary, within a radius of fifty miles of Buffalo, so that automobilists, or others for that matter, will not be liable to take the wrong road in going to or from different points.

It is realized that the undertaking is a big one and will involve much hard work, so a committee of ten members of the club will be appointed to take charge of the matter, Dai H. Lewis being chairman, with power to appoint the other members. Work is to be started at an early date, and Mr. Lewis expects to make a full report to the Board of Governors within three or four weeks.

It is also the intention of the club to place danger signs at all approaches to steep grades and the like, and in order to have the signs protected, the automobilist living nearest each sign will be asked to keep an eye on it and see that it is not molested. A circular letter will be sent to all members of the club asking for suggestions as to where these signs should be erected, and the club is expecting the hearty co-operation of all drivers, whether automobilists or not.

TO ENTERTAIN VISITORS.

Interesting Events Planned to Delight Chicago-St. Paul Tourists.

Special Correspondence.

ST. PAUL, April 29.—The A.C. of St. Paul has practically completed its arrangements for the entertainment of the automobilists who will visit the city on the Chicago-St. Paul tour early in July, and Chairman Ledy, of the committee in charge, has announced the official program.

The dates the start will be made from the several points have been so changed that all are scheduled to arrive in this city at 3 o'clock in the afternoon of July 4. After a serenade lasting until 4:30 p. m. they will visit St. Paul's new \$5,000,000 capitol, where they will pay their respects to Governor John A. Johnson and other state officials.

The tourists will spend the morning of July 5 as they wish, resting at their hotels or visiting the beauty spots of St. Paul and vicinity. Later in the afternoon the ladies will be taken on a tour of Summit avenue and the residence section of the city. There will be a banquet in the evening, at which covers will be laid for 1,000 guests. A stag reception at the Commercial Club will follow.

There will be a parade on the morning of July 6, and racing at the State Fair Grounds in the afternoon. Dinner will be served on the grounds at 6 o'clock, and there will be a display of fireworks in the evening. All of July 7 will be devoted to sightseeing, and a convention of automobilists will be held at the Metropolitan Opera House on the following day. On July 9 the party will be given a boat ride on the Mississippi and Minnesota rivers, which will be followed by straightaway races on the speedway at Fort Snelling, inspection of the fort and a trip to Minnehaha Falls and Lake Harriet.

July 10 will be Minneapolis Day, and on July 11 the state prison at Stillwater will be visited.

RACING AT MORRIS PARK.

Preparations for Opening on May 20—List of Events.

Work of preparing the Morris Park track for the opening race meet on May 20 is now being carried on under the direction of Henry Opdycke, C.E. Road scrapers and steam rollers are being used, and the course will be rolled smooth and hard, and, if found necessary, the track will be sprinkled with crude oil in order to free it from dust. The turns will be banked to the extent of about seven feet, and the finish line will be moved further up the stretch. Ample provision will be made for the parking of cars.

According to the program as now arranged, six events, including an exhibition speed trial by Barney Oldfield, will comprise the day's sport. The races will be for the several distances from one to five miles, and will provide for cars of almost every type, from the small runabout to the high-powered racers.

Following is the list of events:

Corinthian mile, all classes, cars to be driven by amateur owners, as defined by A.A.A. racing rules.

One mile speed trial—Barney Oldfield against his own record of 53 seconds.

Two miles, middleweight class—First prize, \$100 trophy; second, \$40 trophy.

Three miles, free-for-all—First prize, \$100 trophy; second, \$50 trophy.

Three miles, for touring cars of 30-horsepower or less, equipped as per catalogue

specifications, each car carrying three passengers in addition to driver. Cars to line up with dead engines, and with all passengers aboard. At starter's pistol engines are to be started; at judges' stand passengers must be unloaded and the cars must make a circuit of the track, stopping at judges' stand, where passengers must be taken aboard and the three miles completed. First prize, \$100 trophy; second, \$40 trophy.

Five mile, Morris Park Handicap, all classes, Barney Oldfield barred.

Entries close May 15 with Alfred Reeves, secretary, 29 West Forty-second street, New York City.

The Morris Park Motor Racing Club, under whose auspices the meet will be held, has issued an attractive little booklet giving the objects of the club, and describing the track, its facilities and many advantages as an automobile race course. The book is illustrated with views of the track, grandstand and club house, and in addition contains the names of the club officers and board of governors.

Membership in the club is open to any member of a recognized automobile or social club; there is no initiation fee at pres-

They were bound for the gold mines, of course, and carried a complete camping and mining outfit. This included not only a small tent and stock of provisions, but mining drills, dynamite and fuse.

"We are not trying to save carfare," said Mr. Griffin as they were about to start, "because we paid \$1,800 for our machine and had it built especially for this long journey. Our only fear is the dynamite we carry, and we may have to travel more slowly than otherwise on that account."

The accompanying picture shows Messrs. Charles and Griffin in the front seat of their Rambler car just before they left Denver. The man in the tonneau seat was to accompany them, but he "got cold feet" at the last minute—possibly because of their proximity to the sticks.

PIKE'S PEAK ROADWAY SECURED.

Special Correspondence.

DENVER, COLO., April 28.—The much-talked of automobile climb to the summit of Pike's Peak next September is now practically assured. William J. Batchelder, of Colorado Springs, who is promoting the



COLORADO TOURISTS LEAVING DENVER IN RAMBLER CAR FOR NEVADA GOLD FIELDS.

ent, and the annual dues are \$25 (\$15 for persons residing outside the twenty-mile radius of the track). Membership entitles the holder and a lady accompanying him to all privileges, including admission to the grounds and club house at all meets during the season. Only members are permitted to use the track for practice. Applications for membership should be made to Secretary Alfred Reeves, at the address mentioned.

It is the present intention of the club to hold ten race meetings during the season now opening, including special events for members, which will give all machine owners an opportunity to compete. In addition to its opening meet on May 20, the A.A.A. has been requested to grant sanctions covering the following dates:

June 10, July 3-4 (National A.A.A. Meet), July 15 and 29, August 12, September 9 and 23 and October 14.

MOUNTAIN TOUR WITH DYNAMITE.

Not many automobilists would care to undertake the tour from Denver through the Rocky Mountains to Goldfield, Nevada, that John L. Charles and John Griffin, of Crestone, Colo., started upon last month.

event, has secured from J. N. Carlisle, of Pueblo, who owns the carriage road to the summit of the peak, the use of the right of way, and steps will now be taken to repair the road and secure entries for the contest.

Mr. Batchelder and G. A. Wahlgreen, of Denver, accompanied by two expert engineers, will make a trip up the road some time next week, to determine just how much repairing will have to be done to get the road in proper condition, and also to fix the cost of such repairs, which are now variously estimated at from \$2,000 to \$5,000. Most of the work will have to be done beyond the half-way house, as the last two and one-half miles of the road are constructed of broken rock.

Mr. Batchelder has just returned from a trip in the East, and reports that he has secured the promise of entries from dealers in Chicago, Philadelphia, Cleveland, Pittsburg, New York and Boston.

Demus Anderson is now the proud owner of Madison's first automobile. Bill Cavin is the chauffeur teaching Demus how not to let it get away already.—*Madison (Ga.) Madisonian.*



JERSEY CLUB ELECTION.

Officers and Committees Formed—Membership Roster Rapidly Increasing.

Special Correspondence.

NEWARK, N. J., May 2.—The annual meeting of the New Jersey Automobile and Motor Club, was held here last evening, when the officers for the ensuing year were elected. The reports of the retiring officers were read, and showed the organization to be in a good financial condition. The club has now 454 members; one year ago the membership was 146. The treasurer's report showed a balance of \$1,650.71 in the treasury.

A vote of thanks was extended to the retiring officers, and the new officers elected were: Dr. James R. English, president; J. H. Dawson, vice-president; James C. Coleman, treasurer; trustees to serve two years: Frederick R. Pratt, Dr. H. C. Harris, and J. W. Mason.

After the general meeting of the club, the board of trustees went into executive session, and the following committees were appointed: Membership committee: F. W. T. Stiles, chairman; F. R. Long and Paul B. Heller; house committee: J. W. Mason, chairman; Henry C. E. Stengel, C. S. Calbert, George Paddock and Horace P. Cook; legal committee: Dr. H. C. Harris, chairman; R. C. Jenkinson, Frederick R. Pratt; auditing committee: L. W. Frisbee, chairman; F. Edward Spooner and I. R. Denman; good roads committee: J. H. Wood, chairman; and H. P. Cook, the chairman to appoint others; race committee: B. M. Shanley, chairman; W. J. Morgan and W. V. Snyder, Jr. C. S. Wells was appointed secretary.

QUAKER CITY CLUB'S SHAD DINNER.

Special Correspondence.

PHILADELPHIA, May 1.—The annual shad dinner of the Automobile Club of Philadelphia is scheduled for Wednesday, May 10, at the Corinthian Yacht Club house, at Essington, on the Delaware. The members will assemble at the club quarters, at Broad and Chestnut streets, early in the afternoon. This will be the first club run of the season, and promises to be largely attended.

Another run is scheduled for June 16, the objective point being the Merion Cricket Club house, at Ardmore. Similar excursions will be held every month of the sea-

son, and if they prove popular a semi-weekly schedule will be adopted. A project is also afoot for three-day runs on Memorial Day and the Fourth of July.

It is quite likely that the club's annual spring race meet will "go by the board" this season, although the club officials expect to secure a fall date for a race meet at Point Breeze track.

AUTOMOBILISTS TO DINE.

Louisville Club Arranging Annual Banquet—Parade on May 29.

Special Correspondence.

LOUISVILLE, May 1.—Arrangements for the first annual banquet of the Louisville Automobile Club have been practically completed. A number of prominent persons have been invited, and among the speakers will be Governor J. C. W. Beckham, Mayor Charles F. Grainger, Rev. Carter Helm Jones and Charles Ballard. President George Wilson will act as toastmaster. The banquet will be given on May 6 at the new Seelbach Hotel, which was opened to the public to-day, and one hundred covers will be laid.

President Wilson has announced that the third annual parade will take place on May 27. The two previous parades were very successful, last year more than 250 cars being in line. It is expected this number will be largely increased at this year's event, as an effort is being made to have every machine in the city take part.

CLEVELAND CLUB CONTESTS.

Special Correspondence.

CLEVELAND, May 1.—The Cleveland Automobile Club will hold a midsummer meet this season, and has applied for a sanction for August 11-12. As usual, it will be held at Glenville track, and as interest in the racing game seems to be growing here, there will likely be more local cars in this meeting than in former years.

Secretary George Collister opened entries to-day in the competition for the mileage cup, which was offered by the club to the member making the greatest mileage between May 1 and October 1, 1905. An even dozen entries were received, and it is probable that there will be several more within a few days, as it is known that some were holding off to see what others would do.

An interesting feature of the competition is the fact that the names of those competing will not be made public until after October 1, so that competitors will not have an opportunity of watching one another.

Entries for the touring cup contest have not yet been closed, as the touring season has not yet started.

NEWS NOTES OF THE CLUBS.

OLEAN, N. Y.—The automobilists of this county got together recently and organized the Cattaraugus County Automobile Club, electing the following officers: Dr. A. E. Smith, of Olean, president; C. R. Gibson, of Salamanca, vice-president; W. F. Persons, of Delavan, secretary, and Clare Willard, of Allegheny, treasurer. A board of governors was elected, composed of the officers named and the following: A. T. Fancher, of Salamanca; Daniel P. Ray, of Olean, and Charles Smith, of Portville. The club begins life with thirty members.

RACINE, WIS.—The local club is preparing for a most active summer season. At least six new cars of 30 horsepower, or more, will soon be added to its list of machine owners. More than fifty automobiles are now owned in this city by individuals, which is an increase of about fifteen over the past year, and the club expects to enroll as a member every resident owner before the season is over. Club runs are now being planned, and a movement is on foot to macadamize the country roads leading into the city.

WORCESTER, MASS.—President John P. Coghlan, of the Worcester A. C., has made arrangements whereby the club is to have a new home on the first floor of the Bay State House, the official automobile hotel of the city, which will afford much more commodious quarters than those now occupied. A moonlight club run is now being planned for early in May.

CHICAGO.—The Chicago A. C. has issued for distribution among its members a handsome and artistic booklet containing its constitution and by-laws, together with a list of its officers and members. The book also contains several excellent photographic reproductions of interior views of the club rooms.

PORTLAND, ME.—The A. C. of Maine, with headquarters in this city, will officially open the 1905 season on May 10 with a run through the nearby country, followed with a banquet at Riverton Park Casino, and its annual meeting. Other runs are planned for the summer.

GARDNER, MASS.—The Wachusett A. C., which has made club runs a feature of its summer season since its organization three years ago, has announced the following runs for this season: June 3, to Templeton; June 17, Bedford Springs; July 8, Charlton;

American and Foreign Automobile and Auto-Boat Fixtures

AMERICAN.

- May 6.—Race Meet at Brighton Beach, Coney Island. Brighton Beach Racing Association.
- May 8.—Start of Oldsmobile Transcontinental Run from New York City to Portland, Oregon.
- May 13.—Hill Climb, Worcester, Mass. Worcester A. C.
- May 15.—Vanderbilt Cup Race Entries Close.
- May 20.—Race Meet at Morris Park Track, New York.
- May 27-30.—Race Meet at Washington Park Track, Chicago. Chicago A. C.
- May 30.—Race Meet at Readville Track, Boston. Bay State A. A.
- May 30.—Race Meet at Empire City Track, Yonkers, N. Y.
- May 30.—Race Meet at Overland Park Track, Denver, Colo.
- May 30.—Auto Boat Races, Manhasset Bay, Long Island Sound.
- June 7.—Orphans' Day. New York, Chicago, Boston, Buffalo, Worcester and Minneapolis Clubs.
- June 16-20.—Tour of Albany Club to New York, Springfield and Albany.
- July 3-4.—First National A. A. Championship Competition, Morris Park, New York.
- July 4.—Race Meet in Columbus, O.
- July 7-11.—Club Tour from Chicago to St. Paul.
- July 11.—Start of Glidden Trophy Tour, New York.

FOREIGN.

- May.—Industrial Vehicle Trials, Paris. A. C. of France.
- May 1-15.—International Boat Race for Mediterranean Cup. A. C. of France.
- May 6.—Hill Climb of Auto Cycle Club, Fernhurst, England.
- May 7-21.—Second Annual Show, Buda-Pest, Hungary. A. C. of Hungary.
- May 11-13.—Reliability Trials of Scottish A. C., Scotland.
- May 11-25.—Automobile Exhibition, Stockholm, Sweden.
- May 14.—International Motorcycle Race, France. Motorcycle Club of France.
- May 12-10.—English Quarterly 100-Mile Trials. A. C. of Great Britain.
- May 13-22.—International Touring and Endurance Contest for Loiret Cup.
- May 20.—Motorcycle 200-Mile Trial, England. Motor Cycling Club.
- May 30.—British Gordon Bennett Eliminating Trials, Isle of Man. A. C. of Great Britain and Ireland.
- June 1-7.—Race for Liedekerke Cup, Belgium. A. C. of Belgium.
- June 4.—Auto Boat Race at Valenciennes, France.
- June 16.—French Eliminating Trials for Gordon Bennett Race. A. C. of France.
- June 18.—International Motorcycle Cup Contest, England. Auto Cycle Club.
- June 26.—Mount Cenis Hill Climb, France.
- June 29-30.—Auto Boat Races, Kiel, Germany. German A. C.
- July 2-3.—Mile and Kilometer Trials, France.
- July 3-7.—Auto Boat Trials, Southampton, England. A. C. of Great Britain.
- July 5.—Gordon Bennett Cup Race, France.

July 15, Plymouth; July 29, Groton; August 12, Princeton; August 26, Wayside Inn, Sudbury; September 9, Royalston; October 7, Coldbrook Springs; September 23 and October 21, destination not yet decided upon. All of these places have excellent hotel accommodations except Royalston, where the tourists will have a basket lunch.

PIERCE STORE IN BUFFALO.

An attractive addition to Buffalo's business section is the store shown herewith, recently completed at 752 to 758 Main street by the Geo. N. Pierce Company, which has only lately taken possession. The company's general offices are soon to be moved into this building. The showroom for Pierce Great Arrow cars and Pierce Stanhopes occupies the ground floor, its dimensions being 80 feet wide by 120 feet deep. It is well lighted, has high ceilings and is attractively decorated.

At the rear of the store, and separated from it by a plot of ground 80 by 80 feet, which is being treated by a landscape architect, is a new one-story building, 80 by 140 feet, for the storage and repair of cars. There is storage space for 100 vehicles, and a full equipment of up-to-date machinery for repair work has been installed. All the machinery is driven by Niagara Falls electric power.

As the store and garage are centrally located, resident owners of cars and tourists passing through Buffalo will appreciate the conveniences afforded.

WELCOME POPES BACK TO HARTFORD.

Special Correspondence.

HARTFORD, May 1.—People here are glad that the executive offices of the Pope Manufacturing Company have been moved back to this city. Colonel George Pope, the treasurer of the company, was an influential man when he lived here before, and was appointed by the mayor as a member of the board of street commissioners. Albert L. Pope, son of Colonel A. A. Pope, has also returned here, where he has many friends. Colonel Pope still retains his residence in Boston and comes to his factory here about once a month.

Among the buyers of Pope-Toledo and Pope-Hartford cars in this vicinity this spring are: Senator F. T. Maxwell, William L. Davis, William T. Barber, George E. Keeney, E. G. Stoddard, H. B. Tuttle, W. M. Barnum, R. N. Barnum, J. H. Cooke, D. J. Post, Edward F. McKernan, H. B. Coffin, W. H. Lester, P. H. Daley and Dr. H. F. Gill.

RECENT INCORPORATIONS.

Auto Express Delivery Co., Cleveland, O.; capital, \$10,000. Incorporators, J. M. Garfield, F. H. Linn, A. J. Green, and E. J. Blandin.

J. C. Wiehmann Co., New Rochelle, N. Y.; capital, \$1,000. Incorporators, John E. Wiehmann, Steglitz, Germany; John H. Mueller, New Rochelle, N. Y.; W. J. Moran, New York City.

The Forth Co., New York; to manufacture automobiles, boats and parts of same; capital, \$3,000. Incorporators, Clarence R. Forth, Henry L. Sloan, Charles E. Furman, all of New York.

Encampment Auto-Transportation Co., Encampment, Wyo.; capital, \$10,000. Trustees, C. H. Smith, H. J. Bollin, B. F. Butler, A. W. Roe and C. B. Bergquist.

Kay Automobile Heater Co., Lorain, O.; capital, \$75,000. Incorporators, F. J. King, F. W. Crowe, Julius Glick, William Kay and Karl Glick.

NEWS AND TRADE MISCELLANY.

Morgan and Wright, of Chicago, have placed an agency for the sale of their tires and sundries with the Consolidated Supply Company, 1562 Broadway, Denver, Colo.

John G. Perrin, formerly connected with the Lozier Motor Company, at Stamford, Conn., has accepted a position in the mechanical department of the Indianapolis plant of the Pope Motor Car Company.

The Electric Vehicle Company, of Hartford, is now supplying its 35-40-horsepower Columbia touring cars with interchangeable side-entrance tonneau and limousine bodies, and is turning out an electric depot wagon with closed rear seat compartment.

R. M. Owen, sales manager of the Reo Motor Car Co., has established agencies for the Reo cars at Kansas City, Indianapolis and Omaha, and reports that the company is now shipping sixty cars weekly to its agents throughout the country.

The New York Nautical College, of 52 Broadway, New York city, has announced a special summer course in naval architecture and yacht designing, commencing in May and ending in October. The class will be under the instruction of George Crouse Cook, M.I.N.A.

The Continental Caoutchouc Co., of New York, importers of Continental tires, has established a sales agency for the Pacific coast at Golden Gate avenue and Gough street, San Francisco. The new agency will be known as Pacific Continental Tire Agency, Harry W. Bogen, proprietor and manager.

Although the Packard Motor Car Company, of Detroit, added more than 13,000 square feet to its factory floor space last December, it has been found necessary to further increase the plant. A two-story wing, 120 by 50 feet, is now being erected, and will be occupied by the upholstering and top department. This will be followed by a second story over the entire south wing of the factory building, giving an additional floor space of 260 by 52 square feet. This latter space will be divided between the experimental and drafting departments, and

the general offices. C. J. Moore, manager of the manufacturing department, sailed for Europe last Saturday where he will make a personal inspection of the methods employed and materials used by the European manufacturers.

The Automobile Racing Association of Buffalo, recently organized to promote racing in Buffalo during the coming summer, has applied to the A. A. A. for reservation of dates for a meet to be held in August or September. The association is composed of members of the A. C. of Buffalo and the Buffalo Automobile Trade Association.

Contrary to earlier intentions it is now announced that the Winton Company will not build any racing machines this season, and that the old *Bullets* will be the only racers that will represent the company on the track during the season now opening. Charles Gorndt will probably be one of the drivers. Earl Kiser, who was slated to drive one of the new machines, will likely be seen only in stock car events.

A. L. Banker, of Pittsburg, has designed a new pattern Cape cart top. The bows when folded back fall directly underneath each other, giving the top, when folded, a more finished appearance, and places the folds out of the way of the occupants of the car. The fittings are of brass, and bows are dressed with patent leather. The cloth covering is of rubber fabric, and is rain proof. Celluloid is used for the window in the back.

The Midgley Manufacturing Company, of Columbus, O., makers of Midgley wheels and Dunlop rims, has purchased a six-acre site for its new factory. Plans are now in the hands of contractors, and work will be commenced at once. The new plant will consist of two buildings, 1,200 by 50 feet and 700 by 75 feet, respectively, and will be so arranged that the raw material will be received at one end, pass successively through the various processes of manufacture and emerge at the shipping department finished and ready for loading on cars. The company expects to occupy the plant not later than September 1.



NEW MAIN STREET STORE IN BUFFALO FOR PIERCE ARROWS AND STANHOPES.